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CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 1, NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

The prolonged heat and dry weather of the first half of the month, the irregular distribution of the precipitation, and the occurrence of numerous severe local storms formed the principal features of the weather for July, 1912. No well-defined storms crossed the district before the 10th, and the barometric pressure remained comparatively high until that date, particularly over the southeastern part of the country. Hence, conditions were favorable throughout the first decade for the continuance of generally fair weather with high temperatures that rapidly deprived the soil of its moisture. The dairy industry was one of the first to be affected by the dry weather, as was evidenced early in the month by an advance in the price of milk that amounted to nearly 15 per cent. During the second decade numerous disturbances, attended by heavy local and moderate general rains, furnished relief from the drought, and were followed by cool and pleasant weather, continuing throughout the remainder of the month.

The following table exhibits the leading features of meteorological interest for the various sections of the district:

States, or parts of States, within district No. 1.	Temperature.				Precipitation.				Average number of—	
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Rainy days.	Clear days.
New England	69.6	+0.3	101	31	3.17	−0.73	7.17	1.21	7	14
New York	68.3	+0.7	100	28	2.89	−1.55	5.95	1.15	9	17
Pennsylvania	71.5	−0.8	100	36	4.22	+0.22	9.03	1.04	11	13
New Jersey	73.7	0.0	100	36	3.86	−1.09	9.91	1.01	9	14
Maryland, Delaware, and District of Columbia	74.8	−1.0	99	46	4.99	+0.54	13.26	2.19	10	16
West Virginia	71.1	−0.5	100	45	6.61	+2.63	8.44	4.86	14	11
Virginia	74.7	−0.1	98	47	3.70	−0.54	6.58	1.47	8	13

TEMPERATURE.

The average temperatures obtained for each of the stations and for the district as a whole would indicate that the month was one in which no unusual features were experienced. But over the greater part of the district, particularly in the Northern States, the month contained two contrasted periods of nearly equal length, the one abnormally hot, the other cool. The hot period began between the 2d and 4th and lasted until between the 15th and 17th, beginning and ending earlier in the Northern States than elsewhere. This period was considerably less severe than the hot spell of July, 1911, but the maximum temperatures were close to 100° in some sections and were generally above 90° for seven days or more. Maximum temperatures of 101° occurred at North Bridgeton, Me., and Nashua, N. H. The heat was the direct cause of a large number of deaths and prostrations in the larger cities.

In New York and the New England States the temperature averaged above normal at nearly all stations, but farther south it averaged less than the normal. In parts of Virginia the month averaged about 2° cooler than the ordinary July, while at some stations in southern New York it was 2° to 4° warmer than usual. The mean temperatures in different sections ranged from 78.4° to 60.1°, the highest mean occurring at Eastville, Va., and the lowest at Eastport, Me.

Unusually low temperatures for July were observed on the 1st. Freezing temperatures were recorded that day at Indian Lake, Morehouseville, and New Lisbon, N. Y., and at Somerset, Vt. The minimum at Indian Lake was 28° and was the lowest for the month recorded in the district. This is the lowest temperature on record for July in the State of New York, and is probably as low as any that has been observed in the same month in the coldest parts of New England. Some very low temperatures occurred again on the 20th and some later dates.

After the 17th the temperature was almost continuously below normal, and on several dates the deficiency was 10° or more except at stations near the seacoast. At the close of the month vegetation was in need of warmer weather.

PRECIPITATION.

As in the case of temperature the average for the district does not indicate unusual conditions, but as the weather of June and of the first decade or more of July was greatly deficient in rainfall many sections experienced serious drought before the general rainfall of the 10th and 11th. The month's rainfall for the district averaged nearly 4 inches, but there was less than the normal amount at about two-thirds of the stations. The precipitation averaged above normal in Pennsylvania, Maryland, Delaware, and West Virginia, but even in these States there was practically no rainfall earlier than the 10th except in the form of local showers that covered only small areas. The character of the weather during the first part of the month is well illustrated by the statement that in New York the rainfall for the first 12 days was less than 0.30 inch at 19 stations.

In all sections by far the greater part, probably four-fifths of the precipitation, occurred between the 11th and 21st and on the last three days of the month. Local thunderstorms were very numerous and the rainfall was quite irregularly distributed. For New York the average amount was only 2.89 inches, but in West Virginia there was an average of 6.61 inches. At individual stations the total amounts varied from 13.26 inches at Emmitsburg, Md., to 1.01 inch at Layton, N. J.

There were many instances of rainfall at excessive rates. Instances in which 2.50 inches or more rain fell within 24 hours were reported on the 12th, 14th, 15th, 17th, 18th, and 21st. Among the most interesting cases of excessive precipitation were the occurrence of 2.75 inches within 45 minutes at Scarsdale, N. Y., on the 12th, and 0.80 inch within five minutes at Long Branch. N. J., on the 14th. The number of days with 0.01 inch or more of rainfall averaged 10 for the entire district.

RIVER CONDITIONS.

All the large streams remained at moderately low stages throughout the month. Rivers were highest in some sections about the 22d, following the period of heaviest rainfall, and in other places the highest stages were observed at the beginning or at the close of the month.

SUNSHINE.

The percentage of the possible sunshine averaged 66 for 14 representative stations, and ranged from 54 at Binghamton, N. Y., to 76 at New York City. There was an average of 305 hours of sunshine for the month, which is slightly less than the average for June, and may be accounted for by the prolonged period of partly cloudy to cloudy and showery weather of the second decade.

The average number of clear days for the district was 14, of partly cloudy days 11, and cloudy days 6.

TABLE 1.—*Climatological data for July, 1912. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maine.																				
Bar Harbor	Hancock	20	26	66.0	+ 0.4	95	9	40	1	38	4.50	+ 1.79	3.00	0	4	10	10	11	sw.	William Miller.
Cornish	York	778	57	71.8	+ 2.8	101	10	41	1	40	4.06	− 0.13	2.20	0	8	14	9	8	w.	T. H. West.
Eastport	Washington	53	40	60.1	+ 0.3	89	10	46	1	34	2.25	− 1.17	0.88	0	11	8	11	12	s.	U. S. Weather Bureau.
Fairfield	Somerset	90	27	68.2	+ 0.3	94	10	45	1	40	3.35	0	1.32	0	6	12	6	13	.....	E. F. Parker.
Farmington	Franklin	450	15	67.7	+ 0.3	97	8†	40	1	43	2.03	− 1.66	0.56	0	9	11	13	7	nw.	State Normal School.
Gardiner	Kennebec	163	20	69.3	− 1.5	97	8	44	1	40	2.38	− 0.87	1.84	0	7	19	6	6	sw.	Samuel D. Soule.
Greenville	Piscataquis	1,140	8	65.4	.....	94	8	44	1†	37	3.45	− 1.07	1.14	0	11	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	10	68.6	.....	95	5†	50	2†	40	3.45	+ 0.75	1.10	0	9	15	12	4	s.	Bangor & Aroostook R. R.
Lewiston	Androscoggin	185	38	70.0	+ 0.5	96	10	47	1	35	3.03	− 0.52	1.82	0	7	15	9	7	s.	Union Water Power Co.
Madison	Somerset	257	9	69.1	.....	99	9	42	1	38	2.83	− 1.54	0.87	0	8	20	7	4	w.	William Jardine.
Millinocket	Penobscot	386	9	69.0	.....	100	4†	38	1	43	2.27	− 1.38	1.05	0	9	10	7	14	nw.	H. S. Ferguson.
North Bridgton	Cumberland	450	19	71.0	+ 1.5	101	10	47	1†	45	2.95	− 1.39	1.50	0	8	10	17	4	se.	G. E. Chadbourne.
Orono	Penobscot	129	43	68.2	+ 0.9	95	8	38	1	38	4.60	+ 1.46	2.40	0	7	6	14	11	.....	Agr. Exp. Station.
Patten	do	550	10	65.0[d]	.....	93[d]	6	35[d]	2	50[d]	3.02	.....	1.00	0	5	12[e]	7[e]	7[e]	sw.	Bangor & Aroostook R. R.
Portland	Cumberland	99	41	68.1	+ 0.1	92	9	51	20	28	2.50	− 0.75	1.45	0	10	15	8	8	s.	U. S. Weather Bureau.
Presque Isle	Aroostook		3																	S. L. Merriman.
Rumford Falls	Oxford	505	19	68.8	+ 0.5	96	10	44	1†	40	2.22	− 1.83	0.92	0	8	22	7	2	nw.	Charles A. Mixer.
Winslow	Kennebec	90	17	69.7	+ 1.2	97	8†	44	18	41	3.15	− 0.66	1.33	0	8	12	8	11	w.	Hollingsw'th & Whitney Co.
New Hampshire.																				
Alstead Center	Cheshire	1,129	8	68.2	.....	92	4	44	20	34	3.85	.....	0.99	0	11	20	5	6	nw.	Frank Dewing.
Benton	Grafton		3	61.0	.....	93	8†	43	1	33	2.70	.....	1.73	0	5	17	11	3	nw.	State Sanatorium.
Bethlehem	do	1,470	20	65.8	− 1.3	92	7†	39	1	40	2.74	− 1.36	0.85	0	8	19	10	2	sw.	Benjamin Tucker.
Concord	Merrimack	350	52	70.2	+ 1.1	97	8	43	1	39	2.43	− 1.36	0.67	0	7	11	14	6	nw.	U. S. Weather Bureau.
Durham	Stafford	88	17	68.4	− 1.5	98	7†	45	25†	40	4.14	+ 0.58	1.37	0	8	17	7	7	sw.	Agr. Exp. Station.
Franklin	Merrimack	440	13	70.5	.....	100	8†	42	1	43	2.66	.....	1.30	0	8	17	10	4	nw.	Dr. C. P. Webster.
Grafton	Grafton	863	26																	P. R. Kimball.
Hanover	do	603	78	69.1	− 0.1	98	7†	38	1	44	2.69	− 0.97	1.55	0	8	10	16	5	nw.	Dartmouth College.
Keene	Cheshire	506	27	69.0	+ 0.7	97	7†	36	1	46	2.77	− 1.51	0.86	0	12	16	10	5	nw.	Samuel Wadsworth.
Nashua	Hillsboro	125	27	73.0	+ 2.3	101	9	44	1	38	5.43	+ 1.82	1.90	0	6	.....	.....	.....	.....	Jackson Co.
Newton	Rockingham		24	69.5	+ 0.3	99	8	39	25	41	4.87	+ 1.25	1.22	0	8	11	17	3	nw.	W. C. Gale.
Plymouth	Grafton	500	24	68.2	+ 0.6	96	8†	35	1	49	3.21	− 0.21	1.46	0	7	16	3	12	w.	Hattie G. Trow.
Vermont.																				
Bloomfield	Essex		5	65.6	.....	96	6†	36	1	48	2.56	.....	0.64	0	8	16	7	8	s.	Lyman Falls Power Co.
Cavendish	Windsor	910	9	68.9[b]	.....	96[b]	7†	40[b]	25	44[b]	4.40	.....	0.85	0	10	11[e]	15[e]	2[e]	w.	M. A. Kingsbury.
Chelsea	Orange	840	17	66.6	− 0.6	96	6	33	1	50	1.26	− 2.88	1.00	0	4	6	17	8	n.	W. F. Dewey.
Manchester	Bennington	980	13	68.0	.....	93	8	39	1	35	1.72	.....	0.91	0	6	12	17	2	sw.	N. M. Canfield.
Somerset	Windham	2,096	....	63.2	.....	90	8†	31	1	44	3.82	.....	1.13	0	12	14	9	8	sw.	J. Albert Holmes.
St. Johnsbury	Caledonia	711	19	68.5	+ 0.4	96	4†	37	1	50	3.17	− 1.14	1.08	0	9	13	12	6	nw.	Fairbanks Museum.
Woodstock	Windsor	700	20	67.7	− 0.6	96	8	36	1	41	2.78	− 0.55	1.36	0	4	10	9	12	.....	John S. Eaton.
Massachusetts.																				
Amherst	Hampshire	222	23	72.0	+ 1.5	98	8†	41	1	41	2.61	− 1.96	0.85	0	7	15	9	7	s.	Agr. Exp. Station.
Blue Hill	Norfolk	640	28	70.3	+ 1.1	99	9	49	24	34	4.16	+ 0.37	1.30	0	10	16	8	7	sw.	Blue Hill Observatory.
Boston	Suffolk	124	42	73.2	+ 1.9	99	9	56	1	27	5.16	+ 1.80	2.52	0	5	10	10	11	sw.	U. S. Weather Bureau.
Chestnut Hill	do	124	32	72.1	+ 0.5	99	9	47	1†	35	6.39	+ 2.77	3.27	0	5	.....	.....	.....	.....	Met. Water Board.
Clinton	Worcester	370	16	72.0	.....	94	9	51	24	30	3.51	.....	1.79	0	5	.....	.....	.....	.....	Do.
Concord	Middlesex	139	22	70.1	+ 0.4	97	9	41	1	38	3.49	+ 0.15	1.53	0	9	12	11	8	s.	Fred A. Tower.
Fall River	Bristol	200	46	71.8	+ 1.1	93	9	53	24	23	1.21	− 2.39	0.48	0	8	8	21	2	sw.	C. V. S. Remington.
Fitchburg	Worcester	550	29	72.2	+ 1.7	98	8†	48	20	33	3.66	− 0.56	1.33	0	6	18	8	5	nw.	Dr. A. P. Mason.
Framingham	Middlesex	160	32	72.6	+ 1.3	99	9	46	25	36	3.35	− 0.30	1.18	0	7	.....	.....	.....	.....	Met. Water Board.
Hyannis	Barnstable	31	21	69.6	− 3.2	90	9	51	1	22	3.24	+ 0.44	2.50	0	6	17	10	4	sw.	C. F. Sleeper.
Lawrence	Essex	51	28	71.3	− 1.3	96	8†	47	25	33	3.92	+ 0.60	1.07	0	6	10	18	3	sw.	Essex Co.
Lowell	Middlesex	100	27	73.4	+ 1.9	98	9	44	1	37	5.51	+ 1.82	1.22	0	6	.....	.....	.....	.....	Props. Locks & Canals.
Middleboro	Plymouth	53	26	70.0	+ 0.8	94	9	40	25	37	2.15	− 0.93	1.28	0	8	9	8	14	sw.	A. R. Gurney.
Nantucket	Nantucket	15	26	68.5	+ 0.5	82	9	55	1	17	4.89	+ 2.21	2.56	0	8	12	11	8	sw.	U. S. Weather Bureau.
New Bedford	Bristol	88	100																	City Engineer.
Norfolk	Norfolk	244	9	70.1	.....	100	9	33	1	51	3.13	.....	0.96	0	6	21	7	3	sw.	Ruby H. Martyn.
Plymouth	Plymouth		27	69.4	.....	94	10	48	24	29	3.00	.....	1.44	0	8	.....	.....	.....	sw.	Laura B. Knapp.
Provincetown	Barnstable	40	25	69.2	− 0.5	89	9	54	1†	21	1.87	− 1.06	0.54	0	7	21	0	10	sw.	Gideon Bowley.
Rockport	Essex	25	10	67.8	.....	91	9	52	20†	26	7.10	.....	2.00	0	9	9	13	9	sw.	C. F. P. Bearse.
Rutland	Worcester	1,160	10	69.8	.....	95	8	47	19	27	2.74	.....	1.12	0	7	22	7	2	sw.	State Sanatorium.
Turners Falls	Franklin	200	21	72.6	+ 2.7	96	10	43	1	35	1.82	− 2.51	0.69	0	4	.....	.....	.....	.....	Turners Falls Co.
Westboro	Worcester	298	38	73.5	+ 1.4	99	9	45	1†	39	2.49	− 1.10	1.05	0	7	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	31	69.4	+ 0.8	94	10	41	1	40	2.69	− 1.90	1.34	0	8	15	12	4	nw.	Williams College.
Worcester	Worcester	518	20	73.4	+ 2.0	95	9	53	24	28	4.92	+ 0.95	1.61	0	7	14	11	6	sw.	G. W. Swan.
Rhode Island.																				
Block Island	Newport	26	32	68.7	+ 0.6	82	9	55	1	16	7.17	+ 3.86	3.17	0	9	11	8	12	sw.	U. S. Weather Bureau.
Bristol	Bristol	53	26	69.4	− 0.4	85	9†	53	25	23	2.02	− 1.11	1.18	0	6	18	9	4	sw.	N. G. Herreshoff.
Kingston	Washington	250	23	68.6	− 0.6	92	9	45	1	33	2.93	− 0.83	1.40	0	7	15	8	8	sw.	Nathaniel Helme.
Narragansett Pier	Newport	22	30	68.5	− 1.4	90	9	48	2	25	3.60	+ 0.28	2.32	0	10	16	7	8	sw.	U. S. Weather Bureau.
Providence	Providence	182	8	72.2	− 1.2	96	9	51	1	27	1.76	− 1.60	0.81	0	7	16	12	3	s.	Do.
Connecticut.																				
Bridgeport	Fairfield	20	19	73.6	.....	96	9	49	1	33	2.00	.....	0.77	0	8	13	12	6	sw.	William Jennings.
Canton	Hartford	900	51	71.6	+ 3.2	97	9	44	1	35	2.65	− 2.22	0.79	0	7	12	10	9	nw.	G. J. Case.
Colchester	New London	370	26	70.2	+ 0.2	96	8	40	1	41	2.82	− 1.30	1.44	0	7	16	11	4	w.	S. P. Willard.
Cream Hill	Litchfield	1,300	16	70.2	+ 1.2	94	9	43	1	34	2.96	− 3.10	1.04	0	6	19	6	6	sw.	C. L. Gold.
Danielson	Windham	300	10	70.5	.....	96	9	40	1	42	1.95	.....	1.42	0	3	17	11	3	sw.	F. E. Bitgood.
Hartford	Hartford	159	8	73.1	+ 1.5	98	9	48	1	32	2.90	− 1.21	1.00	0	9	9	14	8	s.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	14	71.0	+ 0.1	96	9	39	1	39	2.70	− 1.25	0.75	0	11	11	14	6	nw.	C. B. Hawley.
New Haven	New Haven	107	125	73.0	+ 1.1	95	9	51	1	27	2.14	− 2.64	0.61	0	9	15	8	8	s.	U. S. Weather Bureau.
New London	New London	47	42	73.0	+ 2.5	94	9	50	1	32	2.48	− 1.57	1.00	0	8	12	15	4	sw.	T. C. Dillon.
North Grosvenor Dale	Windham	400	22	71.1	+ 0.1	96	9	42	24	36	4.52	+ 0.16	2.50	0	6	20	7	4	sw.	Grosvenor Dale Co.
Norwalk	Fairfield	116	22	72.9	+ 1.8	98	9	44	1	38	2.17	− 2.96	0.99	0	7	19	7	5	sw.	Geo. C. Comstock.
Southington	Hartford	140	43	71.4	+ 0.3	97	9	39	1	40	3.30	− 1.11	0.90	0	7	12	18	1	sw.	Luman Andrews.
Storrs	Tolland	640	24	70.6	+ 1.9	96	9	45	1	32	3.62	− 1.40	1.53	0	5	12	13	6	s.	Agr. Exp. Station.
Torrington	Litchfield	625	11																	Prof. E. H. Forbes.
Voluntown	New London	260	27	69.6	− 0.6	94	9	37	1	44	2.81	− 1.44	1.16	0	6	18	7	6	sw.	J. L. Herbert.
Waterbury	New Haven	400	37	72.9	+ 1.2	99	9	42	1	45	3.63	− 1.53	1.10	0	7	.....	.....	.....	.....	N. J. Welton.

TABLE 1.—*Climatological data for July, 1912. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Addison	Steuben	1,000	22	70.8	+ 0.5	97	9†	37	1	46	3.64	+ 0.25	0.91	0	16	17	11	3	sw.	Dr. H. R. Ainsworth.
Albany	Albany	97	91	73.2	+ 1.2	98	8	48	1	32	3.13	− 0.77	0.75	0	10	17	9	5	s.	U. S. Weather Bureau.
Alfred	Allegany	1,976	17	66.9	− 0.7	91	5†	38	31	37	3.78	+ 0.46	0.88	0	14	.....	.....	.....	.....	Prof. F. S. Place.
Amsterdam	Montgomery	277	8	70.8	.....	97	8†	43	1	39	2.93	.....	1.09	0	9	19	6	6	w.	Emery Elwood.
Athens	Greene	90	10	72.8	+ 0.6	98	8	45	1	37	1.15	− 2.08	0.28	0	7	11	16	4	sw.	E. C. Brooks.
Ballston Lake	Saratoga	400	8	70.1	.....	95	8	40	1	39	1.91	.....	0.45	0	10	20	6	5	s.	George R. Schauber.
Bedford	Westchester	450	21	76.9	+ 4.3	99	8	43	25	50	2.03	− 2.29	0.93	0	7	22	7	2	.....	Dr. L. Rosenberg.
Beerston	Delaware	1,214	0	67.6	.....	95	8	35	1	46	3.41	.....	1.10	0	12	20	6	5	w.	John Q. Barlow.
Binghamton	Broome	875	21	69.6	− 0.3	95	8	42	1	38	2.90	− 0.64	0.89	0	13	4	8	19	nw.	U. S. Weather Bureau
Bouckville	Madison	1,350	15	68.2	+ 0.2	92	7	40	20	37	1.62	− 3.03	0.80	0	7	7	19	5	sw.	L. W. Griswold.
Boyds Corners	Putnam	560	30	.....	.....	.....	.....	.....	.....	.....	2.87	− 1.83	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Carmel	....do	500	20	71.6	− 0.6	96	9	44	1	45	3.21	− 1.97	1.32	0	10	19	4	8	sw.	Do.
Chatham	Columbia	470	11	72.2	+ 1.3	97	8	42	1	39	1.54	− 2.46	0.47	0	10	18	8	5	s.	Morton R. Tank.
Cooperstown	Otsego	1,250	58	67.7	− 0.4	92	8	39	1	33	3.93	− 0.61	1.15	0	9	23	7	1	s.	Miss Elizabeth C. Keese.
Corinth	Saratoga	542	10	.....	.....	.....	.....	.....	.....	.....	2.93	.....	1.20	0	7	.....	.....	.....	.....	A. M. Hollister.
Cortland	Cortland	1,129	50	70.7	+ 3.6	95	8†	40	20	41	2.97	− 1.91	1.10	0	11	16	12	3	nw.	F. G. Baker.
Cutchogue	Suffolk	32	13	72.4	+ 0.4	93	8†	50	1	28	3.90	+ 0.55	1.54	0	9	19	9	3	sw.	William A. Fleet.
De Ruyter	Madison	1,300	9	66.8	0.0	93	8	37	20	39	3.23	− 1.17	1.21	0	13	16	7	8	nw.	B. D. Crandall.
Elmira	Chemung	863	29	71.1	− 1.1	95	7	44	1	31	3.14	− 0.23	0.98	0	14	14	7	10	sw.	Thurber A. Brown.
Ephratah	Fulton	692	0	.....	.....	.....	.....	.....	.....	.....	1.99	.....	0.50	0	7	10	17	4	w.	Victor Gennett.
Glens Falls	Warren	340	21	72.0	+ 1.1	97	7	42	1	42	3.74	− 0.28	1.64	0	7	16	4	11	n.	Prof. C. L. Williams.
Gloversville	Fulton	850	20	69.8	+ 0.9	98	8	40	1	42	2.71	− 1.48	0.91	0	8	17	12	2	w.	W. L. McClean.
Greenfield Center	Saratoga	314	14	70.4	+ 0.4	97	8†	42	1†	44	2.65	− 1.38	1.45	0	8	17	12	2	s.	S. E. Darrow.
Greenwich	Washington	425	15	73.4	+ 2.9	98	4†	44	1	39	2.57	− 1.03	0.67	0	10	18	12	1	s.	Homer J. Whitcomb.
Griffin Corners	Delaware	2,260	12	65.8	+ 0.1	93	3†	33	1	47	2.66	− 1.22	0.82	0	9	15	12	4	w.	Harold O. Judd.
Haskinville	Steuben	.....	17	.....	.....	.....	.....	.....	.....	.....	5.45	+ 0.74	0.90	0	13	.....	.....	.....	.....	W. G. Collins.
Homer	Cortland	1,096	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Charles C. Mortimer.
Hoosick Falls	Rensselaer	410	10	.....	.....	.....	.....	.....	.....	.....	2.81	.....	1.40	0	10	.....	.....	.....	nw.	Sanford L. Cluett.
Indian Lake	Hamilton	1,705	13	65.4	+ 0.1	100	10	28	1	52	1.95	− 2.12	1.15	0	6	15	8	8	w.	Lester Severie, jr.
Jeffersonville	Sullivan	1,240	9	68.4	.....	95	8	37	1	42	2.94	.....	1.27	0	8	20	10	1	w.	Charles Wilfert, jr.
Liberty	....do	2,300	30	68.4	+ 1.2	91	9	43	22	35	4.76	− 0.01	2.00	0	9	17	4	10	nw.	Dr. H. M. King.
Little Falls	Herkimer	924	14	70.4	+ 1.0	98	8	41	1	37	1.57	− 3.19	0.56	0	7	26	4	1	w.	O. J. Demster.
Mohonk Lake	Ulster	1,245	16	70.6	+ 0.9	89	7†	50	2†	29	3.42	− 2.21	0.85	0	11	13	11	7	s.	A. K. Smiley.
Morehouseville	Hamilton	1,697	4	64.1	.....	92	8	32	1†	48	4.26	.....	1.44	0	8	23	4	4	w.	Theo. C. Remonda..
Morrisville	Madison	1,325	0	69.0	.....	96	8	37	1	45	2.62	.....	0.99	0	5	20	9	2	s.	Prof. I. M. Charlton.
Mount Hope	Westchester	200	15	74.3	+ 1.2	96	9	50	20	31	4.32	− 1.18	1.22	0	7	11	18	2	.....	W. A. Cornelius.
Newark Valley	Tioga	825	25	.....	.....	.....	.....	.....	.....	.....	1.39	− 2.81	0.30	0	8	.....	.....	.....	.....	Lyman D. Clinton.
New Berlin	Chenango	1,000	5	.....	.....	.....	.....	.....	.....	.....	2.44	.....	0.88	0	7	.....	.....	.....	s.	Chas. F. Sarle.
New Lisbon	Otsego	1,234	22	65.8	+ 0.3	94	8	32	1	49	2.95	− 2.08	1.15	0	7	17	4	10	sw.	G. A. Yates.
New York City	New York	314	87	74.0	+ 0.5	93	8	58	23	23	3.26	− 1.28	1.91	0	9	14	7	10	sw.	U. S. Weather Bureau.
North Creek	Warren	1,002	4	67.6	.....	92	8	40	20	38	2.41	.....	1.02	0	9	16	14	1	nw.	W. G. Kenwell.
Northville	Fulton	742	10	.....	.....	.....	.....	.....	.....	.....	2.33	.....	1.00	0	4	.....	.....	.....	.....	P. C. Picard.
Oneonta	Otsego	1,112	18	70.0	− 0.1	95	8	40	1	38	1.26	− 3.46	0.31	0	7	24	3	4	nw.	H. W. Lee.
Oxford	Chenango	916	47	69.4	+ 1.0	91	6†	40	1	36	2.06	− 2.10	0.68	0	5	12	16	3	w.	J. P. Davis.
Port Jervis	Orange	470	28	73.2	+ 2.0	99	8	41	1	42	1.72	− 3.60	0.59	0	12	11	15	5	sw.	W. H. Nearpass.
Roslyn	Nassau	215	0	73.6	.....	96	9	50	1	29	4.11	.....	1.84	0	10	24	5	2	sw.	C. H. Hechler.
Salisbury	Herkimer	1,526	15	65.8	− 2.3	90	7	38	1	40	2.21	− 3.30	0.67	0	10	18	12	1	w.	Joseph Ryan.
Scarsdale	Westchester	200	8	72.8	.....	96	9	49	1†	31	5.95	.....	2.75	0	9	22	5	4	sw.	C. H. Wilmarth.
Setauket	Suffolk	40	27	73.3	+ 1.2	95	9	51	1	28	1.93	− 2.52	0.68	0	7	19	4	8	s.	Selah B. Strong.
Sherburne	Chenango	.....	5	.....	.....	.....	.....	.....	.....	.....	4.96	.....	2.20	0	5	.....	.....	.....	.....	E. B. Collins.
Southampton	Suffolk	36	11	71.3	+ 0.5	86	16	49	1	27	3.29	+ 0.57	1.31	0	9	20	10	1	sw.	W. L. Jagger.
Southeast Reservoir	Putnam	310	7	.....	.....	.....	.....	.....	.....	.....	3.15	− 1.69	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
South Edmeston	Otsego	1,300	0	67.8	.....	94	8	35	1	43	4.54	.....	2.20	0	13	16	12	3	sw.	F. H. Bilderbick.
Spier Falls	Saratoga	400	11	71.4	+ 1.7	98	9	43	19	42	2.62	− 0.70	1.06	0	10	11	13	7	s.	George E. Fifield.
Trenton Falls	Oneida	751	9	.....	.....	.....	.....	.....	.....	.....	2.51	.....	1.03	0	8	.....	.....	.....	.....	C. W. Young.
Tribeshill	Montgomery	268	9	.....	.....	.....	.....	.....	.....	.....	2.20	.....	0.80	0	5	.....	.....	.....	.....	R. S. Marshall.
Utica	Oneida	537	46	.....	.....	.....	.....	.....	.....	.....	2.03	− 2.59	0.65	0	10	.....	.....	.....	.....	W. E. Young.
Wading River	Suffolk	112	6	72.7	.....	96	9	46	2	36	3.76	.....	0.85	0	8	25	3	3	sw.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	22	73.2	+ 0.3	95	8	49	20	32	1.36	− 3.95	0.25	0	10	18	12	1	w.	H. C. Townsend.
Warwick	Orange	538	18	.....	.....	.....	.....	.....	.....	.....	1.49	− 3.22	0.65	0	8	.....	.....	.....	.....	John W. Sly.
Waverly	Tioga	824	30	71.4	+ 1.0	99	8	36	1	47	4.91	+ 1.03	2.00	0	15	7	13	11	sw.	J. F. Shoemaker.
Wells	Hamilton	1,000	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Vernon E. Dewey.
West Berne	Albany	946	13	69.0	− 0.6	97	8	33	1	46	3.56	− 0.58	1.75	0	7	11	13	7	se.	W. J. Haverly.
West Point	Orange	167	63	76.4	+ 2.4	99	9	54	25	33	2.52	− 2.10	0.89	0	7	20	10	1	sw.	U. S. Military Academy.
Windham	Greene	1,520	12	68.0	+ 0.6	93	8	37	1	41	2.42	− 1.18	0.82	0	6	10	16	5	.....	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	24	.....	.....	91	8	.....	.....	.....	9.03	+ 5.40	.....	0	10	.....	.....	.....	.....	C. W. Billin.
Bethlehem	Northampton	260	11	74.2	+ 0.1	96	9	51	28	31	2.72	− 1.92	1.21	0	11	19	7	5	nw.	Prof. E. C. Roest.
Drifton	Luzerne	1,633	14	66.6	− 2.2	91	8	45	1†	35	3.11	− 0.91	1.25	0	17	14	16	1	w.	Eckley B. Coxe, jr.
Emporium	Cameron	1,050	25	69.4	− 1.3	91	8†	36	1	43	3.89	− 0.90	1.65	0	9	4	22	5	e.	T. B. Lloyd.
Ephrata	Lancaster	384	12	72.2	− 2.4	96	8	50	1	32	6.50	+ 2.10	2.19	0	13	23	4	4	w.	W. L. Frants.
Everett	Bedford	1,080	14	70.0	− 1.9	89	8	49	29	32	6.67	+ 2.57	1.35	0	13	6	25	0	se.	B. L. Steckman.
George School	Bucks	184	5	74.4	.....	98	8	48	1	37	3.89	.....	1.41	0	9	19	6	6	w.	N. W. Swayne.
Gettysburg	Adams	600	38	73.5	− 0.3	96	9	51	1†	35	4.52	− 1.42	1.56	0	9	12	15	4	sw.	Col. E. B. Cope.
Gordon	Schuylkill	804	8	69.6	.....	94	8†	38	1	43	4.80	.....	1.46	0	15	15	9	7	ne.	Capt. J. G. Johnson.
Hamburg	Berks	380	16	.....	.....	.....	.....	49	1	46	3.70	− 1.42	1.21	0	7	.....	.....	.....	.....	W. J. Kalbach.
Harrisburg	Dauphin	361	24	74.2	− 0.3	92	8	53	1	25	2.08	− 1.79	0.86	0	12	9	15	7	w.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	24	71.7	− 2.6	93	8†	45	1	35	4.15	− 0.97	1.95	0	12	11	8	12	w.	Prof. W. J. Swigart.
Hyndman	Bedford	977	5	71.2	.....	91	8†	48	28	37	7.08	.....	2.05	0	7	6	22	3	s.	H. C. Mauk.
Lancaster	Lancaster	255	19	73.5	.....	98	8	50	1	35	3.25	+ 0.39	0.70	0	11	21	6	4	w.	F. H. Shaw.
Lawrenceville	Tioga	1,006	14	70.4	+ 0.3	95	8	36	1	44	6.18	+ 2.11	1.45	0	13	8	13	10	.....	C. P. Darling.
Le Roy	Bradford	1,400	23	68.8	− 1.1	93	8	44	20	34	3.98	+ 0.08	0.90	0	16	10	10	11	sw.	G. W. T. Warburton.
Lock Haven	Clinton	560	24	73.4	+ 0.1	100	8	41	1	45	2.16	− 2.05	0.83	0	7	3	26	2	w.	Prof. J. A. Robb.
Marion	Franklin	640	8	74.1	.....	97	9†	43	1	35	3.63	.....	1.53	0	8	17	10	4	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	23	71.2	− 1.3	93	8†	43	1	38	4.22	− 0.77	1.35	0	13	18	6	7	w.	F. C. Wintermute.
Mifflintown	Juniata	445	8	71.8	.....	96	8	43	1	38	5.11	.....	1.94	0	11	11	10	10	w.	Wellington Smith.
Milford	Pike	455	9	70.6	.....	97	8	39	1	47	1.04	.....	0.29	0	13	12	17	2	nw.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	8	68.1	.....	94	8	43	20	33	2.61	.....	0.77	0	10	17	9	5	s.	Silas Jagger.
New Germantown	Perry	873	8	74.3°	.....	93	9	45	2†	43	2.77	.....	1.25	0	8°	14°	4°	10°	w.	Ed. C. Johnston.
Philadelphia (1)	Philadelphia	117	41	76.2	+ 0.4	95	8	59	20	23	4.15	− 0.18	1.37	0	10	12	13	6	s.	U. S. Weather Bureau.
Pocono Lake	Monroe	1,662	10	65.8	+ 0.8	89	8	36	1	40	1.50	− 2.73	0.77	0	4	14	5	12	w.	Pocono Lake Ice Co.
Reading	Berks	280	39	74.2	− 1.1	98	8†	52	1	30	8.34	+ 4.02	2.19	0	13	12	11	8	se.	Emil L. Nuebling.

TABLE 1.—*Climatological data for July, 1912. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Pennsylvania—Contd.																				
Scranton	Lackawanna	805	12	71.8	0.0	94	10	46	20	35	2.11	− 1.72	0.77	0	12	11	11	9	s.	U. S. Weather Bureau.
Selinsgrove	Snyder	455	24	72.2	− 1.5	97	8	43	1	40	8.64	+ 4.23	2.05	0	14	0	18	13	se.	J. M. Boyer, C. E.
State College	Center	1,191	24	70.0	− 0.7	93	8	45	1	31	4.22	+ 0.30	1.44	0	12	.....	.....	.....	se.	Prof. Wm. Frear.
Towanda	Bradford	754	17	70.2	− 0.7	93	8	41	1†	40	2.99	− 0.87	1.46	0	12	18	5	8	s.	Hiram E. Bull, C. E.
Wellsboro	Tioga	1,327	35	69.6	− 0.7	94	8†	36	1	46	3.01	− 0.64	0.98	0	11	16	12	3	sw.	O. L. White.
West Chester	Chester	455	58	74.4	+ 0.2	95	8	56	20†	27	4.11	− 0.81	1.08	0	9	15	5	4	s.	J. C. Green, D. D. S.
Williamsport	Lycoming	530	22	72.6	− 0.5	93	9	48	1	32	3.22	− 0.78	0.82	0	10	20	6	5	nw.	Henry H. Guise.
New Jersey.																				
Atlantic City	Atlantic	16	39	72.0	− 0.5	85	29	55	1	22	5.91	+ 2.13	2.55	0	9	16	9	6	sw.	U. S. Weather Bureau.
Bayonne	Hudson	50	22	74.4	0.0	98	9	53	1	30	3.46	− 1.67	1.92	0	8	15	10	6	se.	Erskine R. Eadie.
Belvidere	Warren	289	22	74.0	+ 1.3	98	9	49	1	35	2.15	− 3.45	0.56	0	9	18	7	6	.....	Samuel J. Hixson.
Bergen Point	Hudson	37	15	74.1	+ 0.7	97	9	55	28	30	4.14	− 1.37	1.89	0	7	10	14	7	sw.	Dr. Wm. H. Mitchell.
Boonton	Morris	230	22	.....	.....	.....	.....	.....	.....	.....	2.03	− 3.43	0.63	0	10	.....	.....	.....	.....	Foster Peer.
Bridgeton	Cumberland	30	31	75.5	− 1.6	98	10	52	1	33	3.91	− 0.52	1.15	0	11	15	8	8	w.	Henry A. Jorden.
Burlington	Burlington	12	26	.....	.....	.....	.....	.....	.....	.....	4.61	− 0.42	1.08	0	10	15	9	7	nw.	D. S. B. McCoy.
Cape May City	Cape May	17	34	72.4	− 1.0	86	9	55	1	19	3.58	− 0.20	1.80	0	10	16	10	5	s.	U. S. Weather Bureau.
Charlotteburg	Passaic	719	20	71.0	+ 1.5	96	8†	36	1	43	2.10	− 2.78	0.55	0	7	16	8	7	nw.	George L. Briggs.
Chatham	Morris	234	10	.....	.....	.....	.....	.....	.....	.....	3.71	− 1.20	1.30	0	9	.....	.....	.....	sw.	M. A. Butler.
Clayton	Gloucester	126	19	74.1	− 1.9	95	9†	52	2	42	8.73	+ 4.46	2.58	0	9	14	11	6	sw.	Wm. T. Farley.
Culvers Lake	Sussex	848	11	.....	.....	.....	.....	.....	.....	.....	2.67	− 2.09	0.66	0	12	18	8	5	e.	Brice E. Riker.
Dover	Morris	600	28	71.5	+ 0.1	97	9	43	1	37	1.91	− 3.57	0.67	0	7	13	9	9	.....	William C. Harris.
Elizabeth	Union	45	33	73.4	− 2.1	98	9	47	1	36	4.00	− 1.26	1.63	0	10	14	10	7	w.	L. B. Bonnett.
Flemington	Hunterdon	140	24	74.2	+ 0.3	98	8	51	1	35	3.28	− 1.68	1.00	0	10	15	10	6	sw.	Hiram E. Deats.
Haddonfield	Camden	75	25	73.4	− 2.1	95	9†	54	1†	32	4.68	+ 0.38	1.52	0	9	13	14	4	nw.	Charles F. Richardson.
Hammonton	Atlantic	103	14	.....	.....	.....	.....	.....	.....	.....	6.43	+ 1.74	1.48	0	10	.....	.....	.....	.....	Orville Bassett.
Hightstown	Mercer	119	20	74.4	+ 0.4	99	9†	47	1	36	2.81	− 3.16	1.15	0	7	16	8	7	sw.	Ernst Wenger.
Highwood	Bergen	90	25	72.4	− 0.1	96	9	44	1	37	1.27	− 4.10	0.47	0	9	9	15	7	sw.	Charles J. Bates.
Imlaystown	Monmouth	107	24	74.4	− 0.8	99	9†	50	1†	37	4.54	− 0.48	2.12	0	10	15	9	7	sw.	Dr. Fred C. Price.
Indian Mills	Burlington	76	23	73.4	− 1.7	98	8	46	1	37	8.06	+ 4.00	2.90	0	9	15	12	4	sw.	James Armstrong.
Jersey City	Hudson	10	14	76.2	+ 1.5	98	9	57	1†	27	3.54	− 1.24	1.93	0	10	12	12	7	.....	Samuel K. Pearson, jr.
Lakewood	Ocean	54	10	72.8	− 0.3	95	9	49	2	33	5.70	+ 1.23	2.22	0	12	.....	.....	.....	sw.	Ralph Robertson.
Lambertville	Hunterdon	95	25	74.4	− 0.1	95	8†	52[a]	1†	31[a]	2.44	− 2.60	0.77	0	9	15	9	7	sw.	William R. Bowne.
Layton	Sussex	550	13	71.3	+ 1.1	96	8	38	1	48	1.01	− 3.42	0.32	0	10	51	10	6	s.	Warren C. Hursh.
Little Falls	Passaic	175	10	.....	.....	.....	.....	.....	.....	.....	3.43	− 2.16	0.76	0	9	.....	.....	.....	w.	A. Sweetman.
Long Branch	Monmouth	30	5	72.4	.....	97	11	51	1	33	4.33	.....	2.53	0	8	.....	.....	.....	s.	William D. Martin, jr.
Mahwah	Bergen	312	10	.....	.....	.....	.....	.....	.....	.....	2.10	− 3.27	0.54	0	7	.....	.....	.....	w.	Charles L. Barker.
Moorestown	Burlington	75	50	74.6	− 0.2	96	9†	53	1	32	5.79	+ 1.21	2.52	0	7	14	10	7	se.	George L. Gillingham.
Newark	Essex	159	69	75.6	+ 1.3	99	8	55	1	33	4.21	− 0.52	1.10	0	10	13	10	8	sw.	Prof. William Wiener.
New Brunswick	Middlesex	100	59	74.2	− 0.1	98	8	50	1	33	.....	.....	.....	0	.....	14	10	7	w.	George B. Thrasher.
Newton	Sussex	678	33	72.8	+ 0.9	95	8	46	1	37	2.81	− 1.89	0.78	0	9	14	10	7	w.	F. Vernon Losee.
Northfield	Atlantic	.....	5	.....	.....	.....	.....	.....	.....	.....	4.63	.....	1.43	0	8	.....	.....	.....	.....	William L. Flick.
Paterson	Passaic	80	41	75.5	+ 1.2	99	9	51	1	33	1.82	− 3.51	0.51	0	10	9	18	4	sw.	Heber A. Probert.
Phillipsburg	Warren	363	22	74.2	+ 0.2	98	9	50	1	34	2.74	− 2.11	1.49	0	11	18	7	6	w.	D. W. Smith.
Plainfield	Union	100	26	74.1	+ 0.2	98	8†	49	1	34	5.49	+ 0.09	1.20	0	11	9	18	4	sw.	John Neagle.
Pleasantville	Atlantic	26	14	.....	.....	.....	.....	.....	.....	.....	6.67	+ 2.53	2.20	0	8	15	9	7	.....	Lincoln Van Gilder.
Pompton Plains	Morris	195	10	.....	.....	.....	.....	.....	.....	.....	3.34	− 2.21	1.04	0	8	.....	.....	.....	sw.	M. S. Taylor.
Somerville	Somerset	60	29	73.7	− 0.2	99	9	49	1	37	3.74	− 1.39	2.06	0	7	14	10	7	sw.	A. A. Macdonald.
Sussex	Sussex	442	22	72.4	+ 0.7	96	8	43	1	38	2.22	− 2.30	1.01	0	10	15	9	7	sw.	George Dymock.
Trenton	Mercer	63	41	75.5	− 0.6	100	8	52	1	32	3.21	− 2.14	1.32	0	9	15	8	8	sw.	James L. Bennett.
Tuckerton	Ocean	23	19	72.4	− 1.7	95	9	47	2	33	6.25	+ 2.35	2.57	0	10	18	7	6	sw.	Frank R. Austin.
Woodbine	Cape May	43	21	74.0[c]	+ 0.1	94[c]	8	44[c]	1	36[c]	9.91	+ 5.98	3.05	0	11	.....	.....	.....	.....	Prof. O. E. Williams.
West Virginia.																				
Bayard	Grant	2,500	10	67.4	− 0.4	90	15	45	28	34	8.44	+ 3.91	2.08	0	18	13	7	11	w.	Solomon Clark.
Franklin	Pendleton	.....	5	73.0	.....	94	7	50	11	36	.....	.....	.....	.....	.....	4	5	22	.....	Fred Calhoun.
Lost City	Hardy	.....	5	70.1	.....	87	14	50	28	27	6.34	.....	2.90	0	13	10	18	3	n.	B. D. Hinegardner.
Martinsburg	Berkeley	435	21	75.3	− 0.1	100	9	52	20	33	4.86	+ 0.80	1.20	0	11	19	6	6	nw.	G. W. VanMetre, C. E.
Upper Tract	Pendleton	1,230	14	71.6[a]	− 1.0	92[a]	15	49[a]	28	37[a]	6.80	+ 3.17	2.50	0	13	1	24	6	w.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	40	77.7	− 0.6	94	7	61	28	26	4.59	− 0.50	1.75	0	10	20[a]	0	10[a]	s.	U. S. Naval Academy.
Baltimore	Baltimore	115	42	76.5	− 0.8	94	8	61	1	23	5.96	+ 1.14	1.23	0	10	12	13	6	s.	U. S. Weather Bureau.
Cambridge	Dorchester	25	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. E. Keeman.
Cheltenham	Prince George	230	12	74.4	− 1.5	91	8†	55	28	26	4.25	+ 0.04	2.04	0	8	16	9	6	sw.	George Hartnell.
Chestertown	Kent	80	27	75.7	− 0.2	94	10†	52	1	29	4.92	+ 0.76	2.37	0	8	18	10	3	s.	M. W. Thomas.
Chewsville	Washington	530	15	73.6	− 0.9	94	8†	51	28	34	5.12	+ 1.26	2.25	0	13	12	18	1	ne.	D. Paul Oswald.
Clear Spring	do	650	15	71.9	− 1.9	93	14	54	2	27	5.70	+ 1.44	1.95	0	11	15	11	5	sw.	W. W. Frantz.
Coleman	Kent	80	14	75.7	− 1.2	95	10	56	1	29	3.33	− 1.25	0.63	0	10	20	8	3	sw.	J. S. Harris.
College Park	Prince George	170	22	75.0	− 0.3	94	10†	52	28	35	5.13	+ 0.48	1.72	0	10	4	25	2	nw.	Prof. H. J. Patterson.
Cumberland	Allegany	623	38	75.0	.....	96	8	52	28	36	4.33	+ 1.11	1.58	0	16	9	11	11	w.	F. E. Harrington.
Darlington	Harford	300	20	73.6	− 1.1	92	8†	55	1†	27	6.04	+ 1.27	1.03	0	12	12	15	4	sw.	Prof. A. F. Galbreath.
Denton	Caroline	42	17	75.2	− 1.4	94	8†	51	1	32	4.49	+ 0.41	1.55	0	8	27	2	2	s.	H. B. Mason.
Easton	Talbott	35	21	75.2	− 1.2	90	8†	54	1	24	5.20	+ 0.94	1.67	0	10	25	4	2	sw.	Henry Shreve.
Emmitsburg	Frederick	720	39	77.0	+ 1.7	99	16	58	20	31	13.26	+ 9.46	3.50	0	7	16	10	5	sw.	Jos. M. Sheridan.
Fallston	Harford	450	42	72.8	− 1.5	91	8†	54	1	24	6.22	+ 1.83	2.00	0	13	1	25	5	s.	J. H. Curtiss.
Frederick	Frederick	275	35	75.9	− 0.3	98	14	54	28	33	8.53	+ 4.69	1.93	0	16	12	3	16	sw.	Chas. S. Birely.
Frostburg	Allegany	1,929	11	71.1	.....	91	13	51	28	32	7.19	.....	1.90	0	19	3	23	5	nw.	R. A. Walter.
Great Falls	Montgomery	200	21	74.8	− 1.1	96	8	52	28	34	3.91	− 0.27	1.32	0	8	11	10	10	nw.	J. W. Bissett.
Green Spring Furnace	Washington	450	20	74.4	− 1.0	96	8†	54	28	33	5.56	+ 1.66	1.75	0	15	22	3	6	nw.	E. G. Kinsell.
Keedysville	do	400	8	74.9	.....	96	10	52	28	34	5.40	.....	1.24	0	13	21	7	3	s.	J. A. Miller.
Lake Montebello	Baltimore	200	3	75.0	.....	95	8†	56	1	28	5.24	.....	1.65	0	10	22	5	4	s.	Martin L. Dobler.
La Plata	Charles	190	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. Lee Reich.
Laurel	Prince George	150	18	74.0	− 1.9	94	14	54	28	30	3.65	− 1.19	0.92	0	11	11	17	3	.....	Dr. T. M. Baldwin.
Leonardtown	St. Marys	100	2	76.2	.....	92	8†	58	2†	26	5.24	.....	1.46	0	9	22	2	7	s.	Brother Fidelis.
Monrovia	Frederick	630	25	74.4	− 1.8	96	14	52	28	33	5.41	+ 0.96	2.10	0	11	18	9	4	s.	J. H. Lawson.
Pocomoke City	Worcester	37	19	76.4[a]	− 1.5	92[a]	17†	54[a]	2	27[a]	2.19	− 1.60	1.10	0	6	25[a]	4[a]	1[a]	sw.	Hon. R. M. Stevenson.
Porto Bello	St. Marys	38	7	73.9[a]	.....	95[a]	21	53[a]	20	34[a]	.....	.....	.....	.....	.....	.....	.....	.....	se.	Mrs. Clara C. Hyatt.
Princess Anne	Somerset	17	19	74.1	− 1.7	91	8	51	2	28	3.74	− 1.29	1.14	0	10	8	18	5	sw.	J. R. Stewart.
Rockville	Montgomery	421	5	73.6	.....	89	8†	59	1†	21	4.68	.....	1.33	0	13	17	9	5	.....	Dr. Geo. E. Lewis.
Salisbury	Wicomico	23	7	76.2	.....	95	8†	52	2	32	2.83	.....	0.91	0	8	24	6	1	sw.	W. E. Downing.

TABLE 1.—*Climatological data for July, 1912. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maryland—Continued.																				
Solomons	Calvert	20	21	78.2	− 0.1	97	10†	64	2†	26	2.33	− 2.15	0.82	0	12	3	12	16	sw.	Dr. W. H. Marsh.
State Sanatorium	Frederick	1,460	4	71.4	.....	96	9	46	25	31	5.69	.....	1.12	0	8	12	15	4	sw.	Superintendent.
Sudlersville	Queen Anne	65	13	75.2	− 1.4	96	10	51	1	34	2.72	− 2.43	0.59	0	8	20	5	6	s.	Henry L. Higman.
Takoma Park	Montgomery	320	14	71.9[b]	− 3.4	90	8†	59[e]	1†	30[e]	5.31	+ 0.18	2.20	0	10	2	22	7	.....	L. M. Mooers.
Taneytown	Carroll	450	13	73.9	− 2.3	98	9†	52	28	36	5.20	+ 0.56	1.72	0	7	23	4	4	sw.	Curtis H. Reid.
Towson	Baltimore	465	4	73.8	.....	94	9	53	1	28	4.08	.....	1.40	0	12	20	7	4	se.	C. W. E. Treadwell.
Van Bibber	Harford	100	15	74.5	− 1.4	94	8†	53	1†	33	3.78	− 1.23	1.05	0	7	21	4	6	.....	W. Benj. Ford
Westernport	Allegany	1,000	18	73.1	− 0.2	95	15	52	28	35	5.73	+ 1.70	1.76	0	9	....	....	....	.....	Prof. O. H. Bruce.
Westminster	Carroll	860	19	73.9	− 0.2	94	8	51	28	33	5.34	+ 0.06	1.29	0	12	23	5	3	w.	Prof. Geo. F. Morelock.
Woodstock	Baltiomre	392	38	76.9	+ 1.8	94	8	59	1†	26	3.59	− 0.03	1.18	0	12	17	7	7	w.	Rev. J. F. Dawson, S. J.
Delaware.																				
Delaware City	Newcastle	10	10	74.2	.....	94	10	56	3†	27	5.17	.....	1.12	0	11	27	1	3	sw.	H. Morton Price.
Dover	Kent	40	24	75.6	− 1.2	96	8	51	1	20	2.28	− 2.58	0.60	0	7	17	7	7	sw.	W. C. Josting.
Milford	do	20	28	76.0	− 0.8	97	8	52	1†	29	3.89	+ 0.15	1.04	0	10	19	8	4	sw.	Chas. J. Holzmueller.
Millsboro	Sussex	20	20	75.6	− 0.7	98	16†	47	2	35	5.08	+ 0.02	1.79	0	9	22	5	4	sw.	Rev. L. W. Wells.
Seaford	do	40	21	74.4	− 1.8	92	8	51	1†	30	4.73	− 0.41	2.00	0	8	26	4	1	sw.	E. B. Brown.
Wilmington	Newcastle	86	1	76.8	.....	96	9	59	23	25	5.51	+ 1.07	2.15	0	8	25	4	2	se.	Alexander J. Taylor.
District of Columbia.																				
Washington	District of Columbia.	112	42	75.8	− 1.0	94	14	60	20	27	7.21	+ 2.56	2.93	0	11	19	7	5	s.	U. S. Weather Bureau.
Virginia.																				
Culpeper	Culpeper	450	4	73.9	.....	92	8†	52	27	32	5.03	.....	1.20	0	7	14	16	1	s.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	33	72.5	− 1.4	95	16	47	28	41	3.10	− 1.32	0 92	0	11	5	23	3	s.	Rev. L. J. Heatwole.
Eastville	Northampton	15	2	78.4	− 0.1	98	17	58	20	27	1.47	− 3.03	0.74	0	6	18	12	1	sw.	T. B. Robertson.
Fredericksburg	Spottsylvania	100	23	74.8	− 2.3	92	8	58	20†	26	6.58	+ 2.00	2.67	0	10	20	9	2	s.	S. G. Howison.
Lincoln	Loudoun	500	11	74.8	− 1.1	100	18	54	28	36	3.58	− 0.20	1.00	0	8	....	....	....	nw.	Dr. Geo. Roberts.
Mount Weather	do	1,726	8	70.0	− 1.4	86	8	56	20	23	4.11	− 0.55	1.03	0	10	9	14	8	nw.	U. S. Weather Bureau.
Onancock	Accomac	20	1	76.4	.....	94	18	52	2	27	1.78	.....	0.83	0	4	17	13	1	s.	S. F. Rogers.
Quantico	Prince William	16	15	75.6	− 1.1	94	14	54	20†	30	4.73	.....	3.90	0	7	22	8	1	ne.	Rich., Fred'burg & Potomac.
Staunton	Augusta	1,380	20	74.7	+ 0.6	91	14†	54	28	31	3.48	− 0.28	1.45	0	8	3	21	7	sw.	Ernest Nothnagel.
Winchester	Frederick	717	1	75.3	.....	95	15	58	2†	27	2.45	.....	1.01	0	6	17	9	5	.....	Bently Kern.
Woodstock	Shenandoah	927	16	75.4	− 0.5	97	14	55	28	31	4.31	+ 0.86	2.10	0	10	8	18	5	w.	Mrs. A. G. Artz.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 1, North Atlantic States.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maine.																																	
Ashland	St. John											T.	T.				.60			.65		.25	3.00	T.	T.	T.				T.	T.	T.	4.50
Bar Harbor	Coast																					.15	1.00				.20			.42	.24	.02	2.52
Cambridge	Kennebec							.34						.15																.37	.57	.13	4.06
Cornish	Saco						.02					.30			.35				T.	.12		2.20											
Danforth	Penobscot						.12				.03				.25					.65		T.	1.40	.15	.05	.18	T.	.20		.20			3.23
Eastport	Coast						.07		.08	T.	T.	T.	T.	T.	.29		T.			.56		.31	.57	T.	.14	.12		.05		.01		.05	2.25
Eustis	Kennebec					1.09	T.	.05							.07					.36	.01	.13	.41					T.	T.	.74	.06	.22	3.14
Fairfield	do					.35									.45		.14			.14		1.32									.95		3.35
Farmington	do					.01						T.			.56		T.		.01	.25		.24	.30				T.	T.		.24	.24	.18	2.03
Gardiner	do														.41		T.		T.	.06		.43	1.41				T.		.01	.05		.01	2.08
Greenville	do				.06	T.	.04			T.	T.				1.14		T.		T.	.54		.31	.22		T.	.07	.25	.04		.44	T.	.34	3.45
Houlton	St. John					.20	.40								.40				.30				1.10			.35	.30			.20		.20	3.45
Howe Brook	Penobscot					.14		.12		.50				.50						.20		.60		.70	.40	.25	.20	.25			.10	.20	4.16
Lewiston	Androscog'n							T.		T.		T.	T.		.57				T.	.12		1.36	.46				.08			.43	.01	T.	3.03
Madison	Kennebec					.29									.77					.23		*	.87								.47	.07	.13	2.83
Millinocket	Penobscot													.13	.21				.54	.01		.79	.26		.02			T.	.13			.18	2.27
North Bridgton	Saco							.28							.13					.17		*	1.50							.82	.02	.03	2.95
Oquossoc	Androscog'n																																
Orono	Penobscot												.31		.48					.55			2.40			.40				.16		.30	4.60
Patten	do					.01	1.00			T.						T.				.01			1.00		T.					T.	1.00	T.	3.02
Portland	Coast											.15	.02	T.	.28		.24		.24	.02		1.43	.02							.04	T.	.06	2.50
Presque Isle	St. John																																
Rumford Falls	Androscog'n						.06							T.	.92					.26		.36	.07						T.	.28	.03	.24	2.22
The Forks	Kennebec				T.	T.	T.	T.											.56			.65			T.		.42			.41		.55	2.59
Winslow	do					.55									.52		.10		.18			*	1.33							.02	.45		3.15
New Hampshire.																																	
Alstead Center	Connecticut					.99	.01			T.	T.	.51	.26		.35		T.		.64	.06		.75	.09							.06	T.	.13	3.85
Benton	do									T.	.38				.30					.29		*	1.73							T.		T.	2.70
Bethlehem	do											.30			.72					.71		.53	.32				.06	T.	T.	.07		.03	2.74
Brookline	Merrimack											.45			1.88				.65			.90								.20			4.08
Concord	do											.25			.67		T.		.25	.02		.62								.05	.57	T.	2.43
Durham	do										.35	1.32	.35		.32				.19			1.37									.23	.01	4.14
Franklin	do						.02			T.		.37	T.		.64		T.		.11	.17		1.06	.24									.05	2.66
Grafton	do																																
Hanover	Connecticut					.09	.02			T.	.02	.05			.57					.31		1.55						T.			.08	2.69
Keene	do					.28				T.	.12	.02	.11		.86				.77	.08		.31	.05							.13	.03	.01	2.77
Nashua	Merrimack											1.90			1.30				.43			1.25								.05	.59	T.	5.43
Newton	do										T.	.88	.35		.33				.37			1.22								.54	.28	.90	4.87
Plymouth	do						.98					.03			.38		T.			T.		1.46	.14							.10		.12	3.21
Vermont.																																	
Bloomfield	Connecticut					.39						.64			.10					.50	.05	.14	.37							.37			2.56
Cavendish	do					.76	.48			T.		.37			.68				.22	.71		.85								.15	T.	.15	4.40
Chelsea	do														.12					.10		1.00	.04									T.	1.26
Manchester	Hudson					T.						.17	.21		.27				.09	T.		.91	.07							T.	T.	T.	1.72
Somerset	Connecticut					.52	.01					.04			1.13	.03			.43	.37		*	.61							.30	.23	.15	3.82
St. Johnsbury	do					1.08		.31	T.			.12			.23	T.	T.	T.		.53		.34	.37	T.					T.	.17	T.	.02	3.17
Vernon	do						.08								.67				.71	.02		.55								.11	.02		2.16
Woodstock	do											.29			.75				.38			1.36											2.78
Massachusetts.																																	
Amherst	Connecticut											.25			.66				.30			.85								.44	.07	.04	2.61
Ashland	Merrimack											1.54			.06				.81			1.06								.29		.08	3.84
Bakers Bridge	do								T.			.38	.28						.63	.34		.65	.53							.20	.28	.15	3.44
Bedford	do								T.			2.40	.07		.07		.18		1.64	.17		1.09								.36	.03	.03	6.04
Blue Hill	Coast											1.30	.05		.01		.07		.92	.26		1.01	.02							.50	.02	T.	4.16
Boston	do								T.		.02	1.14	T.		T.		T.		2.52	T.		1.03								.45		T.	5.16
Chestnut Hill	do											1.57			T.				3.27			.95								.43		.17	6.39
Clinton	Merrimack											.20			.03				1.79			1.13								.36		T.	3.51
Concord	do								T.			.31	.07		.01				1.31	.22		1.11	.02							.25	.19	T.	3.49
Fall River	Coast											.13	.05	.01	.24							.48							.03	.16		.11	1.21
Fitchburg	Merrimack											.45	.01		.44				1.33			1.23								.20			3.66
Framingham	do									.03		.57			.03				.90			1.18								.41		.23	3.35
Haverhill	do									.06	.03	1.17	.30		.53				.37			.45	.73							.03	.92	.54	5.13
Hingham	Coast										.03	1.86			T.		T.		.89			1.14								.48	T.	.25	4.65
Hyannis	do												.15		.04		.17			.25		2.50								.13			3.24
Jefferson	Merrimack											.19			.10				1.00			.95								.34			2.58
Lake Cochituate	do											.74			.04				.66			1.03								.40			2.87
Lawrence	do									T.	T.	.99	T.		.88				.60			1.07								.24	.14	T.	3.92
Leominster	do											.55			.54				.76			1.25								.34			3.44
Lowell	do											1.03			.97				1.22			.97								.40	.92		5.51
Middleboro	Coast											1.28	.01		.07		.14		.01			.54								.03	T.	.07	2.15
Nantucket	do												.49		.14		.85	T.	.48	.12		2.56					T.		T.	.09		.16	4.89
New Bedford	do																																
Norfolk	do										T.	.06	.05		T.				.75	.96		.85								.46	T.	T.	3.13
Plymouth	do											.19	.43		.08		1.44		.07			*	.58							.22			3.00
Princeton	Merrimack											.20		.05	.23				.49			1.17								.30			2.44
Provincetown	Coast											.54	.17				.22			.16		.24	.44							.10		T.	1.87
Rockport	do											1.45	.60		.60				2.00	.20		1.00	.65							.20	.40		7.10
Rutland	Connecticut								T.			.14	.03	.04	.04				1.07			1.12					T.		T.	.30	T.	T.	2.74
Somerset	Coast											T.	.01		.19							.34								.09	T.	.23	0.86
Spot Pond	do								.45	.10	.01	1.93			.03				.81		.02	1.22							.02	.06	.02	.60	5.27
Springfield	Connecticut									T.		.24	.02		.32				.26			.98							.04	.31	.01	.01	2.19
Sterling	Merrimack											.34		T.	T.				.61			*	1.10							.26			2.31
Taunton	Coast											.05	.05		.06		T.		.19			.57						T.		.09	T.	.27	1.28
Turners Falls	Connecticut														.42				.68			.69										.03	1.82
Westboro	Merrimack												.57		.08				*	.41			1.05							.35	.03		2.49
Williamstown	Hudson					.14						.05			.49				1.34	T.		.25	.05							.29		.08	2.69
Winchendon	Connecticut											.24			.70				.55			.70								.20	.02	T.	2.41
Worcester	Coast									.01		.49		.68	.21				1.48			1.61					T.			.44		T.	4.92
Rhode Island.																																	
Block Island	Coast												.18		3.14	.03		.12	1.23			2.31					.01			.14		.01	7.17
Bristol	do											1.18	.02		.26							.32								.07		.17	2.02
Greene	do												.14	.03	.96							.96				.01				.16			2.26
Hope Valley	do											.32			1.89	.03			.13			.52					.01			.16			3.06

TABLE 2.—*Daily precipitation for July, 1912. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Rhode Island—Con.																																	
Kingston	Coast											.43	.20		1.40				.21			.53					.03			.13			2.93
Narragansett Pier	do											.06	.22	T.	2.26	.06		.08	.18	.11		.43	.02						T.	.18			3.60
Pawtucket	do												.04		.01				1.12			1.12						T.	T.	.29		.10	2.68
Providence	do											.01	.08		.04				.81			.74						T.	T.	.07		.01	1.76
Wallum Lake	do											.20			.07				2.30			1.20								.90			4.67
Connecticut.																																	
Bridgeport	Coast											.08	.02	T.	.09		.15		.15			.48							T.	.26	T.	.77	2.00
Canton	Connecticut									.79	T.	T.			.33			.07	.09	T.		.65								.10		.02	2.65
Colchester	Coast											.10			1.44			.03	.10	.03		.91					T.			.21	T.		2.82
Cream Hill	Housatonic									.26		.15			1.04							.86							.02	.63			2.96
Danielson	Coast														T.				.33			1.42								.20			1.95
Falls Village	Housatonic											.14			1.28				.10			.69					T.		.67			.02	2.90
Hartford	Connecticut									.32	.03	T.	T.		.44			.02	.77			1.00					.01		T.	.28	T.	.03	2.90
Hawleyville	Housatonic										.10	.20	.75		.04			.25	.09			.50					.20			.43	.26	.06	2.70
Lake Konomoc	Coast												.85			.20			.65			.67							.10		.24		2.71
New Haven	do											.06	.07	T.	.04			.33	.01			.61					.04		T.	.55	T.	.43	2.14
New London	do											.02	.31		.10				1.00			.50					T.		.10	.21		.24	2.48
N. Grosvenor Dale	do									.02		.30			.06				2.50			1.00								.64			4.52
Norwalk	do											.10			.14			.16				.61					.02			.15		.99	2.17
Southington	do											T.	.05		.25			.05	.85	.85		.90	T.				T.			.35		T.	3.30
South Manchester	Connecticut										.27				.07			.01	1.91			.96					.03						3.25
Storrs	Coast									.28					.01				1.07			.73								1.53			3.62
Torrington	Housatonic																																
Voluntown	Coast											.46	.30		1.16				.20			.56								.13			2.81
Wallingford	do											1.23	.06		.07		.03	.30	.89		.05	1.11				.02			.11	.15	T.	.20	4.22
Waterbury	Housatonic									T.			.75		.04			*	1.57			.71					T.			.54		.02	3.63
West Simsbury	Connecticut									.74	T.	T.			.31				.63			.88					T.			.43		.02	3.01
New York.																																	
Addison	Susq'hanna			.08	.91	.02			T.	T.	.66	.12			.06		.48	.16	.02	.04		.12			.06		.32		.04	.12		.43	3.64
Albany	Hudson					.02				.73	T.	.54		T.	.58				.16	.02		.24	T.							.72	.03	.09	3.13
Alfred	Susq'hanna				.05					.40	.20	.40		.13		.88					.13	.30			.13	.55	.13		.15	.13	.20		3.78
Amsterdam	Mohawk				.56	T.				T.				T.	1.09	T.	.06		.06	.36		.29	.09							.36		.06	2.93
Athens	Hudson					T.				.28	T.	T.		T.	.22		T.	T.	.05	T.		.25					T.		T.	.22	.03	.10	1.15
Bainbridge ‖	Susq'hanna								.07					.20		.05			.12			.30				.08			.07			.55	1.44
Ballston Lake	Hudson				.05	T.				T.	T.	T.	T.		.65	.16	T.		.25	.07		.31	.03							.34	.15	.10	1.91
Bedford	Coast									.93		.02	.24					.12				.42								.25		.05	2.03
Beerston	Hudson								.17		.14	.07		.13	.65			.34	.06	.14		.22					.10			1.10		.29	3.41
Binghampton	Susq'hanna				.07					.14	.01	.28	.01	T.	.33	.20	T.	.70	.50			.07			T.				.01	.26		.32	2.90
Blue Ridge	Hudson																																
Bouckville	Susq'hanna				.03					.27					.10		.02					.80								.23		.17	1.62
Carmel	Hudson									.10		.28			1.32		.37	.04			.02	.48					.01			.37	.22		3.21
Chatham	do									.09	.06				.25				.11	.01		.30					.02			.47	.15	.08	1.54
Cooperstown	Susq'hanna				.65	.13						.15							1.15			.44				.05			.95		.38	.03	3.93
Corinth ‖	Hudson				.03					.05	.20			.90					.25		1.20									.30			2.93
Cortland	Susq'hanna					.24				.03	.14	.06				.18	.03			.50			.42				.09			1.10		.18	2.97
Cutchogue	Coast											.05	.61		.06			.05	1.12	.10		1.54								.12		.25	3.90
De Ruyter	Susq'hanna				.02	.10	.20			.39	.06	.01			.15	.02	.06			.17			.70							1.21		.14	3.23
Elmira	do			.18	.80					.39	.07	.21		.07	T.	.17		.35	.27			.12			.02		.12		.05	T.		.32	3.14
Ephratah	Mohawk				T.					T.					.45	.50					.16	.45	.03							.38		.02	1.99
Glens Falls	Hudson				T.					.45		1.64			.40				.20			.98	.02							.05		T.	3.74
Gloversville	Mohawk				.06										.70	.91					.12	.54	.06							.28		.04	2.71
Greene ‖	Susq'hanna					.50					.23				.42		.52		.16	.04			.16							.29	.03	.05	2.40
Greenfield Center	Hudson				.04										1.45				.07	.14		.60	.14							.16		.05	2.65
Greenwich	do											.18			.60	.01	T.		.23	.38		.40	.05							.03	.67	.02	2.57
Griffin Corners	do					.82				.13	.12	.02		T.	T.	.40		T.	.30			.24								.45		.18	2.66
Hancock ‖	do					.06						.06	.40		.85				.50	.28		.02	.28				.04		.35	.03			2.87
Haskinville	Susq'hanna			.25	.90					.60	.70	.90			.18		.10			.11		.60			.09		.75		.12		T.	.15	5.45
Homer	do																																
Hoosick Falls ‖	Hudson					.13							T.		.45	.05	.01			1.40		.02	.36				.11				.26	.02	2.81
Indian Lake	do					.10	.30								.20					.15		1.15									.05		1.95
Jeffersonville	Delaware				.02					T.	T.	T.		.15	.13			1.27	T.			1.01	T.				.03		T.	.27		.06	2.94
Liberty	do					T.				.20	.10			.15	.12			1.55	.30		.24	2.00							.10				4.76
Little Falls	Mohawk				.15					.03					.35	.20						.56								.26		.02	1.57
Mechanicsville ‖	Hudson								T.		.04	T.		.40		T.		.08	.71			.50						.45	.05		.03		2.26
Mohonk Lake	do					.60				.01	.03				.85	.10		.30				.80					.10		.05		.28	.30	3.42
Morehouseville	Mohawk				.40					.20		.63			1.44			.12				1.15								.12		.20	4.26
Morrisville	Susq'hanna									.99												.73	.05							.68	.17		2.62
Mount Hope	Coast											.37	.42					.55	.47			1.13							T.	.16		1.22	4.32
Newark Valley	Susq'hanna				.03	T.						.24			.25		T.	.13	.07			.12								.25		.30	1.39
New Berlin ‖	do					.16	T.					.03	.04		T.				T.	.52		T.	.63							.88		.18	2.44
New Lisbon	do					.08									.15				.60	.30		.57								1.15		.10	2.95
New York City	Coast										T.	.17	.03		.16		.24	.54	.03		T.	1.91							T.	.09		.09	3.26
North Creek	Hudson							.25		.28	.10			.52		.06	.06			.06		1.02									.06		2.41
Northville ‖	do											.21		.72		.40						1.00											2.33
Norwich ‖	Susq'hanna					.08	.06					.36	T.	.02		.02		.01		.54			.64				.03			.86	.08	.09	2.79
Oneonta	do									.28				.31	.07				.21	.06		.12								.21			1.26
Oxford	do				T.	.35	T.			T.	T.	T.		T.					T.	.43		.30				T.				.68		.30	2.06
Port Jervis	Delaware				T.	.04					.10		.01	.02	.02			.49	.10			.24					.02		.05	.57		.06	1.72
Roslyn ‖	Coast												.90	.58		.22		.19	.21	.03		.05	1.84				.01				.08		4.11
Salisbury	do				.04		.25		.21						.45	.28				.11		.67	.07							.06		.07	2.21
Scarsdale	do									T.		.25	2.75	.10	.05			.25	.15			.60					T.			.40		1.40	5.95
Setauket	do											.68	.25		.05			.11	.34			.41					T.		T.	.09		T.	1.93
Sherburne ‖	Susq'hanna					T.				2.20										.45			.30				T.			1.80		.21	4.96
Southampton	Coast												.06		.08	T.	T.	.10	.79	.18		1.31					.03			.71	.03		3.29
South Edmeston	Susq'hanna				.17	.50				.41	.16	.02		T.		.07		.02	.48		.05	.37	.01				.01			2.20		.12	4.54
Spier Falls	Hudson				T.				.01	.26		.06		.73				T.	.26		.05	1.06							.06	.11		.02	2.62
Trenton Falls ‖	Mohawk				.02	.18						T.			1.03	.08	.10			T.			.93								.06		.11	2.51
Tribeshill ‖	do														.80					.20		.70									.30		.20	2.20
Utica ‖	do				.04	.07				.15					.65		.10			.07		.03	.53							.35		.04	2.03
Wading River	Coast											.39	.46		.69			.56	.61			.85								.05		.15	3.76
Wappingers Falls	Hudson					.18				T.		.18	.16		.05			.04				.24							.10	.25	.10	.06	1.36
Warwick	do					.17						.05			.65			.16				.12					.04			.22		.08	1.49
Waverly	Susq'hanna				.25	.07					.18	.39	.02		.88	.02	.02	.03	2.00	.45		.15							.06	.07		.32	4.91
Wells	Hudson																																
West Berne	Mohawk				T.	T.				.57	.04			T.	1.75					.05		.02								.97		.16	3.56
West Point	Hudson										.08	.32			.29			.44				.80							.34	.16			2.52
Windham	Mohawk									.82	.45				.47					.10		.16					T.			.42			2.42

TABLE 2.—*Daily precipitation for July, 1912. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylvania.																																	
Allentown		Lehigh				.23					.26	.66			.09		.08	.03	.08			1.19			.03		.05		.07			.08	2.85
Altoona		Susq'hanna			.08	.11				.25							*	*	4.75				2.28		1.34	.02						.20	9.03
Ansonia		do				.06	.60			.21		.30	.18		.10				T.	.19		T.	.20			.19	.57			.09	T.	.21	2.90
Bellefonte		do																															
Bethlehem		Lehigh					.26				.04	.09	.56		.07	.05			.26	.06		1.21			.01				.11				2.72
Browers Lock		Schuylkill									.03	.55			.80				.80					1.41		.14						.27	4.00
Catawissa		Susq'hanna			1.02	.06				.19	.07	.23			T.	T.			.07	T.		.68			.18		.25		.08			.07	2.90
Center Hall		do								.21	.09	T.					.08		.51		T.	1.10			.50		.08		.05	.05		.15	2.82
Coatesville		Coast									.09	.09	.02		.26		2.02	.32	.85			.85			.18		.10			.03		.43	5.24
Doylestown		Schuylkill									T.	.48		T.	.35			.10	.91		1.00												2.84
Drifton		Susq'hanna				1.25				.50	.04	.02	.08	.13		.04	.02	.08	.01	.02		.55			.01		.15		.02	.07		.12	4.11
Emporium		do			.09	.26			T.	.18	.22	.24			T.		T.	.35	1.65		T.	.45			.45		T.		T.				3.89
Ephrata		do				.01					.92	.50	.03		.18			.84	2.19			.89	.13		.25		.19			.01		.36	6.50
Everett		Juniata				.30			T.	.68	T.	.10			.50		.12	.75	.51	.16		1.35			1.12	.15	T.			.84		.09	6.67
Forks of Neshaminy		Delaware										.24	.49			.99		.29	.72			1.09					.15			.23			4.20
George School		do										.41	.16		.32			.08	.65			1.41			T.		.26			.02	.58		3.89
Gettysburg		Potomac				.04					T.	T.			.27		.12	.33	1.56			1.12			.76	T.	.02			.30	T.		4.52
Girardville		Susq'hanna			1.08	.60			T.	3.05	.25		.11		T.		.22	.55				1.08			.20	.25			.10	.08		.05	7.62
Gordon		do				.88			.02	.62	.39	.17	.09					.56	.06			1.46	.02		.15		.11		.03	.18		.06	4.80
Hamburg		Schuylkill				.59					.39						.45			.24		1.21		.71								.11	3.70
Hanover		Susq'hanna			.02						.06				.72		.09	.16	1.25			1.92			.50	T.	.01			.13			4.86
Harrisburg		do			.13	.11			T.	T.	.18					.01	.06	.11	.15		T.	.86			.34		.06		T.	.06		.01	2.08
Huntingdon		Juniata			T.	T.			T.	.07	.01		T.	T.	T.	.18	.17	.45	.42	.03		1.95			.60		.04		T.	.22		.01	4.15
Hyndman		Potomac			T.	1.20				.81					T.	.18	.80		.74		T.	2.05			1.30		T.		T.	T.	T.		7.08
Kennett Square		Coast								.42	.45				.13		.08	1.26	.22						.25					.30		.22	3.33
Lancaster		Susq'hanna			.03	.18				.70	.18				.02		T.		.42			.58			.40		.11		T.	.02		.61	3.25
Lansdale		Schuylkill								.18	.15				.96			.08	.41			1.17								.19		.15	3.29
Lawrenceville		Susq'hanna			.23					.60	1.45	.15			.30			1.30	.20			.20			.10		.70		.10	.50		.35	6.18
Le Roy		do			.60	.01				.09	.90	.84	.01		.40		.02	.13	.02			.11			.05		.37		.05	.02		.36	3.98
Lewisburg		do			T.	1.44				T.	.82	.47		.07	T.			1.20	.05			.64			.87		.57		.06	.03			6.22
Lloyd		do			.70	T.					.14	.38					.07	.03	.06			.28		.40	.78	.40	T.		T.	.02		.20	5.08
Lock Haven		do			T.							.42			T.	T.	T.	.14	T.		T.	.83		T.	.20	T.	.26		.03			.28	2.16
Marion		Potomac			T.	.15				.14		.14	.09					T.	.48		T.	1.53			.53	T.			.57				3.63
Mauch Chunk		Lehigh				.82				.06	1.35		.12	.07	.02	.36		.35	.06			.73					.08		T.	.12		.08	4.22
Mifflintown		Juniata			T.	.09						.29		.05			1.77	.17	.12			1.74			.51		.04			.14		.19	5.11
Milford		Delaware				.05				.01	.29	.02		.03	.02			.03	.08			.19					.09		T.	.12	.03	.08	1.04
Montrose		Susq'hanna			.16	.05					.10				.50	.05		.33				.77							.10	.22		.33	2.61
Mountain House		Juniata									.45	.20				.74	.12	.20	.60	.03		1.65			.80	11				.63	.58	.07	6.18
Mount Gretna		Susq'hanna			T.	.07					.02	.78	.17		.93	T.	.01	.68	.34		T.	1.35				.40	.22		T.	.03		.18	5.18
New Germantown		do			.30				T.								.24	.20	.24			1.25			.14					.30		.10	2.77
Ottsville		Delaware				.25						.07	.40		.27			.22	.27			1.08					.02			.03		.62	3.23
Philadelphia		do									.75	1.21		T.	.43		T.	.13	.70		T.	.59			.03		.10		T.	.02		.19	4.15
Pocono Lake		do				.77					T.							.17	.18			.38							T.				1.50
Point Pleasant		do											.20		1.33				.56			1.11										1.11	4.31
Pottsville		Schuylkill			1.03	.22					.02	.63		1.17		T.	.11	.24	.04		T.	1.88			.10		.14		.07	.05		T.	5.70
Reading		do				.13					2.19	1.33			.82		1.09	.77	.25		.01	1.24			.10		.17		.02	.22		T.	8.34
Renovo		Susq'hanna				.15							.70				.10	.12	1.41			.10	.69		.10	.20	.20			.11		.17	4.05
Scranton		do			.12	.01				.04	.14	.05		.77				.11	.02			.50							.02	.25		.08	2.11
Seisholtsville		Schuylkill				.34					.02	.08	1.92		.13			.57	.25			.85			.03		.03			.05		1.20	5.47
Selinsgrove		Susq'hanna				.95					.14	.98		.25				2.05	.05	.06	1.38	1.38			.17		.78		.02	.15		.28	8.64
Shawmont		Schuylkill										10	1.25					.30	.54				.94		.05		.04			.03			3.60
Smiths Corners		do											.19		1.62			.12	.40										1.11			1.24	4.68
Spring Mount		do										.19	.20		3.22			.54	.60			.94			.04		.06			.50		.02	6.31
State College		Susq'hanna			T.	.02					.46	T.			T.	T.	.68	.01	.64	.01	T.	1.44	T.		.65	.01	.08			.14		.08	4.22
Stroudsburg		Delaware									.07	.04		.60	.60	.99		1.31	.14			.44								.02		.08	4.29
Towanda		Susq'hanna			1.46	.21					.32	.01			.22		T.	T.	T.	.02		.23			.03		.04		.04	.01		.40	2.99
Weikert		do			.12	.12				.13		.05					.03	.03			.02	1.35			.25		.32			.08		.04	2.66
Wellsboro		do			.30					.01		.30		.33	.34				.93	.05		.13			.17		.36		.09				3.01
West Chester		Coast										.89	.40		.14	.50	.01		1.08			.81			.13		.15						4.11
Wilkes-Barre		Susq'hanna				.19						.01	.58		.30			.01	.08	.07			.42				.05			.03	.09	.04	1.87
Williamsport		do				.16	.10					.07	.72						.68				.82		T.	.17	.40			.04		.06	3.22
New Jersey.																																	
Atlantic City		Coast										2.46	.10		T.	T.		.16	1.25		T.	.51			.02		.90			.48		.03	5.91
Bayonne		do									T.	.45	.04	.02	.32				.44			1.92								.05	.22	T.	3.46
Belvidere		Delaware									.14	.41	.18		.34		.12		.22			.56								.13		.05	2.15
Bergen Point		Coast									T.	.21	.03		.52	T.			.94			1.89							T.	.10	.45	T.	4.14
Boonton		Passaic										.19	.63			.04		.41	.12	.02		T.	.47				.02				.13		2.03
Bridgeton		Coast									.05	.55			1.00	.15		.15	.86		.05	.50			.25		.23			.12			3.91
Burlington		Delaware									T.	.60		.09	.23		.30	.37	.24			1.08					.35			.39		.96	4.61
Cape May City		Coast										.36	.10			T.		.01	1.80	.03	.02	.70			.30		.01			T.		.25	3.58
Charlotteburg		Passaic				T.					T.	.36		T.	.11		.37					.31				.10			T.	.30		.55	2.10
Chatham		do										.40	1.30			.50		.10	.15	.08			1.05							.05	.08		3.71
Clayton		Coast										.39	1.50		2.10			.57	2.58			1.15			.13		.20			.11			8.73
Culvers Lake		Delaware								.14	.41	.66	.02		.14			.45	.15			.30					.05			.15	.03	.17	2.67
Dover		Passaic										.67			.07			.07				.54							.02	.18		.36	1.91
Elizabeth		Coast									.12	.69	.05		.23		.08	.25	.03			1.63								.52		.40	4.00
Flemington		do									1.00	.07	.36		.30			.12	.34			.75			.03					.03		.28	3.28
Haddonfield		Delaware										.56	.23		1.32	.01	T.	T.	1.52			.64			.05		.18			.17		T.	4.68
Hammonton		Coast										.01	1.48		1.14	.03		.42	.95			1.16			.04		.50			.70			6.43
Hightstown		Delaware									.37	.07	.25		.28		.25		.44			1.15											2.81
Highwood		Coast									.01	.17	.11		T.			.15	.12			.47			.01					.07	T.	.16	1.27
Imlaystown		Delaware										.83			2.12		.48	.33	.09		.08	.41				.08			.01	.11			4.54
Indian Mills		Coast										1.80	1.10		.84	T.		.45	1.90			1.06			.06		.76			.09			8.06
Jersey City		do									T.	.13	.05		.32			.65	.02			1.93							.01	.11	T.	.32	3.54
Lakewood		do									.16	.18	.46		2.22		.42		.78			1.31	.08				.03		.03	.02	.01		5.70
Lambertville		Delaware									.03	.13			.67			.03	.59			.77			.04					.03		.15	2.44
Layton		do				.13				.05		.02			.02				.10			.17			.06					.07	.07	.32	1.01
Little Falls		Passaic									.38	.54	.22		.10		.48	.14	T.			.47			T.		.47			.63			3.43
Long Branch		Coast										.03	.31		2.53			.07	.12			1.21							.05	.01		T.	4.33
Mahwah		Passaic							.40							.17		.12					.42					.12			.33	.54	2.10
Moorestown		Delaware										.42	.60		2.52		.06		1.19			.76			T.		.24			T.			5.79
Newark		Passaic									.02	1.00	.06		.88		.65	.23	.03			1.10								.04		.20	4.21
Newton		Delaware				.33						.44	.05				.03		.78			.38					.05		T.	T.	.33	.42	2.81
Northfield		Coast										.03	1.43					.14	1.15			.66			.05		.45			.72			4.63
Paterson		Passaic									.16	.16	.19		.03		.39		.12			.51					.03		T.	.19		.04	1.82
Phillipsburg		Delaware				T.						.55	.01	.01	.20		.03	.10	.04			1.49			T.				.03	.02		.26	2.74
Plainfield		Coast									1.14	.11	.08		.37		.40	1.05	.15			1.15			T.				.02	.07		.95	5.49
Pleasantville		do										1.41			.02			.01	1.99		T.	2.20			.03		.96			.05			6.67
Pompton Plains		Passaic										.60	.78			.03		1.04	.05	.01			.52				T.			T.	.31		3.34

TABLE 2.—*Daily precipitation for July, 1912. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New Jersey—Con.																																	
Somerville	Coast										.09		.22		.49				2.06			.66								.03		.19	3.74
Sussex	Hudson					.19						1.01	.03					.38	.02			.22					.06			.16	.01	.14	2.22
Trenton	Delaware											T.	.56	.01	.25			.16	.64			1.32		T.			.15			.02	.10	T.	3.21
Tuckerton	Coast											1.57	1.00		.15	.02		.45	1.43			.80			.03		.55			.25			6.25
Woodbine	do											.06	1.53		2.30	.01		.15	3.05	.27		.69			.16		1.41			.28			9.91
West Virginia.																																	
Bayard	Potomac	.10	.02		.11	.78					.03	T.	.13				.60	.14	.89	.19		1.11	.05		2.08	.17	.23			.40	1.23	.18	8.44
Burlington	do																																
Franklin	do																																
Harpers Ferry ‖	do											1.10	T.						.62	1.50	T.		.71			.95							4.88
Lost City	do				T.					.34	T.	.30	.52	.23	.05	.25	.17	.09	.94			.17			2.90					.32		.06	6.34
Martinsburg	do				.32	.15					.35		T.		.11	.10	.50	.40	.52			1.20			.95				T.		T.	.26	4.86
Moorefield	do																																
Romeny ‖	do																																
Upper Tract	do	.08			.38	.35					.35	T.		.10		1.30	T.	.50	.80			.25			2.50					.08	.05	.06	6.80
Maryland.																																	
Annapolis	Coast												.11	T.		1.75		.03	.40	T.	T.	.65			.97	.02				.03	.59	.04	4.59
Baltimore	do										.76	T.			1.04		T.	.12	1.17		.02	.81			.58	.02				.94		.50	5.96
Cheltenham	do															2.04		.18	.84	.20			.32		.50	.13						.04	4.25
Chestertown	do											.15	.53			2.37		.08	.50	T.	T.	.53			.70	.06					T.		4.92
Chewsville	Potomac				.02							.03			.03	.16	.38	2.25	.20		.01	1.20			.73		.01			.08		.02	5.12
Clear Spring	do	T.					.52					.05	.05		T.			.75	1.95	.25		.37	.76			.92				.05	T.	.03	5.70
Coleman	do										.50	.07			.10	.61		.28	.58		T.	.63			.43					.06		.07	3.33
College Park	do											.35	.10			1.72	.15		1.40		.02		.38		.78	.05				.18		T.	5.13
Cumberland	do	.05			T.	.06				.13	.01	.35	T.	T.	.13	.15	.07	.08	.59	.01		1.58			.98	.09				.02		.03	4.33
Darlington	Coast										.52	1.03	.10		.29	.57		1.01	.10	.20		1.02			.81	.20	.19						6.04
Denton	do											.50	.11			.39			1.55	.30		.57			.97					.10	T.		4.49
Easton	do												.43			1.67			.67	.11		.44			.94	.07				.06	.68	.13	5.20
Emmitsburg	Potomac														1.50			3.50	1.50							3.00			2.00	1.01	.75		13.26
Fallston	Coast										1.17	.18	.04		1.22	.04	T.	.14	2.00	.02	.02	.86			.42	T.	T.			.07		.04	6.22
Frederick	Potomac					.33					T.	1.12	.01	1.71	.06	.15	T.	.42	1.93	.01	.02	.80			1.28	.08				.07	.01	.53	8.53
Frostburg	do				.20	.04				.36	.26	.01	.17		.18	.20	.11	.11	.28	.04	T.	1.90	.08	1.44	1.44	.17				.17		.03	7.19
Great Falls	do											.20				1.32	.50	.03		.70			.26			.83				.07			3.91
Green Spring Furnace.	do				.02	.51				.23	.06	.05			.03		.32	1.75	.48		.02	1.16			.72	.16				.02		.03	5.56
Keedysville	do				.31						.03	.06			.44	.08	.12	1.14	1.24		T.	.96			.75	.10				.09		.08	5.40
Lake Montebello	Coast										.12	.20			.38		T.	T.	1.11	T.	.05	.65	T.		.65	.01				.42	T.	1.65	5.24
La Plata	do																																
Laurel	do											.43	.03			.92	.03		.32		.2	.86			.77					.08	.16	.03	3.65
Leonardtown	do									.09	.11	.27				1.46			1.21			.94			.53	.02						.61	5.24
Monrovia	Potomac					.15						.26			.20	.71			2.10	.02	.01	.72			1.02	.05				T.		.17	5.41
Pocomoke City	Coast											T.	.14			15				.15		.61			1.10		.04						2.19
Princess Anne	do									T.	.45	.40	.15			.65			.15	.10		.20	.01		1.14		T.				.49	3.74
Rockville	Potomac										.03	.18			.90	1.33	.02	.05	.54	T.	.68	.03	.02		.77	.06				.07	T.		4.68
Salisbury	Coast										T.	.03	.13			19			91	.40		.30	T.		.82	.05				T.			2.83
Solomons	do									.02	.01	.02	.06			26			.52	.30		.40	.09		.31	.02				T.		.32	2.33
State Sanatorium	Potomac				.05										.88	.65	1.10	.60	1.12						.65					.64		T.	5.69
Sudlersville	Coast										T.	T.	.45		T.	.59		.17	.36		.13	.46			.52	.04	T.			T.	T.	T.	2.72
Takoma Park	do											.18	.20			2.20	.12	.03	.11	1.10			.25			.92						.20		5.31
Taneytown	do											.15			.04			1.15	1.72		T.	1.22			.51					.41		T.	5.20
Towson	do										.16	.14			.70	T.		.03	1.40	.02	.02	.86			.60	.04				T.	.10	.01	4.08
Van Bibber	do										.09	.65			1.05				.80		.04	.72			.43								3.78
Westernport	Potomac				.08	.06					.15						.90	.92	.25			1.43			1.76					.18			5.73
Westminster	Coast											1.12			.30	.20		.20	1.29	.05		1.08	.04		.52					.05	.06	.43	5.34
Woodstock	do									T.	T.	.37				.42	.03	.09	1.18	.02	.22	.66			.53	.03				.01	.03		3.59
Delaware.																																	
Delaware City	Coast											.72	.33			1.12		.08	1.02			.32	.63		.28		.24			.12	.31		5.17
Dover	do										.04	.31			.30			.13	.55			.60			.35								2.28
Milford	do												.94			.05			1.04	.20		.01	.68		.67	.26	.02			.02	T.		3.89
Millsboro	do											.18	.22						1.46	.17		.49			1.79		.08				.35	.34	5.08
Seaford	do												1.06						2.00	.06		.60			.70	.20				.03	.08		4.73
Wilmington	do										.20	.95			.14				1.43			2.15			.18	.26				.20			5.51
District of Columbia.																																	
Washington	Coast										.40	.82			2.93	T.	.02	.02	1.71		T.	.20			.58	.04				.37	T.	.12	7.21
Virginia.																																	
Culpeper	Rappahan'k												.35		1.20				1.06			.36			.77					.57		.72	5.03
Dale Enterprise	Shenandoah	T.		T.	T.					.04	.28		.03	T.	T.	.02	.45		.32			.52	.32		.92					.15		.05	3.10
Eastville	Coast									.03	T.									.16			.05		.74					.01	.48		1.47
Fredericksburg	Rappahan'k										1.35		.23		*	2.67			.54	.14		.62			.54	.07				.30		.12	6.58
Lincoln	Potomac										1.00		.04					.25	.40			.45			.71	.08						.65	3.58
Mount Weather	do										.07	.76			.01	1.02	T.	T.	.33		T.	.22			.59	.07				.09		.98	4.11
Onancock	Coast										.83	.12											.40		.43								1.78
Quantico	Potomac										T.	.03			3.90				.43			.21			.09					.04		.03	4.73
Staunton	Shenandoah				.50				T.		.09	1.45							.28			.03			1.08					.04		.01	3.48
Winchester	Potomac												.50			T.		.14	.25			.49			1.01	.06							2.45
Woodstock	Shenandoah	.03											.11		2.10		.04		.50			.22			1.00	.06				.14		.11	4.31

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Portland.		Presque Isle.		Rumford Falls.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	69	46	69	44	73	38	72	53	.....	.....	74	44	78	43	82	41	71	56	76	40	72	55	78	51	77	43	80	48
2....	85	55	82	52	84	48	81	53	.....	.....	84	48	86	48	87	52	85	61	82	55	72	57	84	60	82	56	84	59
3....	83	59	89	52	90	52	85	62	.....	.....	92	52	92	53	94	56	92	65	88	58	72	60	89	64	87	57	90	61
4....	73	50	90	58	92	54	84	64	.....	.....	93	57	95	58	96	60	94	67	87	60	73	61	90	63	86	62	90	65
5....	59	50	86	62	91	61	84	66	.....	.....	90	66	93	67	93	66	91	68	88	65	76	62	85	66	89	63	88	67
6....	65	51	84	62	88	60	78	64	.....	.....	92	68	93	67	93	65	90	68	82	62	78	63	85	65	87	61	87	67
7....	71	50	92	64	92	61	87	66	.....	.....	93	68	95	67	94	64	93	70	85	64	80	64	86	66	89	63	89	67
8....	86	52	94	70	95	63	86	67	.....	.....	94	68	97	68	98	69	94	72	87	69	81	65	83	70	93	61	96	69
9....	80	54	88	66	94	64	92	68	.....	.....	94	68	96	66	98	67	99	78	94	63	82	67	96	74	94	62	98	67
10....	89	55	91	69	92	66	92	74	.....	.....	96	68	96	70	97	66	97	76	91	65	78	67	93	72	91	68	94	72
11....	68	51	80	67	93	67	85	71	.....	.....	83	70	89	70	89	71	90	70	90	68	76	67	90	71	86	67	89	72
12....	68	56	80	58	88	61	74	64	.....	.....	81	66	86	63	89	68	72	64	75	68	74	64	78	65	81	66	87	70
13....	69	49	80	54	84	48	70	59	.....	.....	78	65	82	63	84	69	81	63	81	62	74	62	76	62	77	66	80	67
14....	55	50	78	60	78	61	76	61	.....	.....	84	66	81	67	84	70	81	68	75	66	76	66	77	68	81	64	81	68
15....	64	50	86	57	89	66	82	62	.....	.....	90	66	87	66	88	69	85	71	82	70	79	68	85	69	84	66	88	70
16....	66	52	76	57	83	67	87	65	.....	.....	78	58	82	62	84	67	92	69	90	71	75	66	90	68	81	69	87	71
17....	71	51	75	45	77	46	70	56	.....	.....	78	48	78	56	81	58	70	64	74	63	71	62	78	65	82	68	80	63
18....	68	51	79	47	80	49	67	60	.....	.....	80	56	73	62	74	68	70	63	79	63	74	63	77	66	80	66	81	68
19....	73	53	65	56	76	58	73	56	.....	.....	70	54	74	53	76	52	79	62	79	69	80	65	77	59	73	60	76	61
20....	70	50	72	49	70	48	74	51	.....	.....	75	44	79	46	79	44	79	57	75	48	70	62	74	55	72	48	75	53
21....	62	49	68	44	76	46	63	56	.....	.....	66	48	64	56	67	60	70	61	71	60	71	63	73	63	68	57	72	63
22....	59	51	64	53	73	53	74	55	.....	.....	70	57	75	56	80	58	79	62	78	63	73	63	79	62	73	58	80	62
23....	58	52	59	50	64	53	68	54	.....	.....	66	53	69	52	72	52	73	57	72	52	72	61	71	55	71	52	72	57
24....	57	52	66	50	67	49	74	53	.....	.....	72	53	75	50	80	45	79	57	76	46	73	60	77	53	75	57	77	53
25....	66	54	66	51	70	53	72	56	.....	.....	73	56	76	45	81	44	75	58	77	40	74	59	78	54	78	58	80	50
26....	63	51	68	53	72	48	72	55	.....	.....	76	49	79	49	83	53	79	62	79	48	70	58	80	56	74	60	81	59
27....	67	54	69	51	77	53	76	58	.....	.....	73	54	74	52	78	54	78	63	77	51	75	60	76	60	75	52	76	61
28....	70	53	63	50	78	50	78	53	.....	.....	68	50	78	49	85	50	84	58	81	50	75	64	83	56	82	53	85	56
29....	58	52	60	54	77	53	73	60	.....	.....	70	56	81	63	80	65	78	67	78	66	71	65	79	67	73	60	80	65
30....	61	54	69	52	75	65	67	57	.....	.....	73	58	80	59	83	62	70	61	77	58	71	60	80	63	74	61	81	63
31....	62	54	66	45	76	54	58	53	.....	.....	70	55	72	52	74	52	72	61	79	51	73	60	79	61	71	58	74	58
Mns..	68.2	52.0	75.9	54.9	81.1	55.3	76.6	59.7	.....	.....	79.9	57.7	82.4	58.0	84.6	59.3	82.0	64.5	80.8	59.2	74.5	62.5	81.5	62.9	80.2	60.1	83.2	63.0

Date.	New Jersey.								Martinsburg, W. Va.§§		Maryland.								Millsboro, Del.		Washington, D. C.		Virginia.					
	Bridgeton.		Hightstown.		Phillipsburg.		Sussex.				Baltimore.		Darlington.		Frederick.		Westernport.						Fredericksburg.		Staunton.§§		Woodstock.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	82	52	81	47	81	50	80	43	77	57	76	61	79	55	79	58	73	61	79	48	77	63	74	63	74	60	72	63
2....	84	53	85	50	86	53	85	52	88	58	79	66	81	55	84	60	84	55	81	47	81	64	79	60	80	60	86	71
3....	90	61	89	55	91	57	90	56	92	63	83	67	84	60	92	60	87	62	88	53	86	66	84	61	85	61	90	61
4....	94	67	94	63	94	64	92	64	95	66	88	69	86	66	94	67	86	62	85	65	88	69	87	67	87	65	91	64
5....	93	68	93	64	93	68	90	68	95	69	87	72	88	67	93	68	83	65	89	67	89	71	87	67	85	66	87	68
6....	92	63	93	62	94	66	90	65	89	64	87	70	87	63	90	64	88	65	84	60	89	65	85	62	85	61	89	61
7....	93	60	95	59	95	62	92	62	95	65	87	70	90	63	93	63	90	61	85	62	90	64	87	63	87	61	92	62
8....	97	67	96	68	97	65	96	64	98	65	94	74	92	66	96	67	93	63	97	67	93	69	92	67	89	64	95	65
9....	97	72	99	69	98	69	94	68	100	69	83	72	92	69	96	69	90	64	96	71	91	72	88	69	89	66	94	65
10....	98	72	99	70	96	70	94	68	95	69	94	73	89	68	96	70	93	67	97	72	92	72	89	68	90	69	92	67
11....	93	71	94	70	93	69	89	67	88	68	89	72	89	68	90	69	88	69	94	73	89	72	89	68	87	66	91	67
12....	92	68	90	67	91	65	88	68	95	67	88	71	88	64	91	66	90	61	89	69	90	70	86	67	88	65	91	65
13....	90	70	89	65	88	66	81	63	93	68	90	74	89	68	94	69	89	61	89	68	91	71	90	68	90	65	94	65
14....	94	70	93	70	87	70	88	72	96	68	93	71	88	70	98	72	88	64	93	71	94	68	91	67	91	67	97	67
15....	86	70	87	70	90	66	88	67	96	69	90	71	85	68	94	67	95	66	89	72	89	70	88	69	89	67	93	70
16....	95	73	96	72	91	70	87	71	96	68	93	74	92	68	94	70	86	66	98	73	90	73	90	71	91	70	92	67
17....	87	71	89	69	89	66	86	61	93	69	90	75	85	70	93	70	91	66	98	75	92	73	90	70	88	69	94	70
18....	83	72	81	69	81	69	79	69	75	69	80	72	80	67	80	68	83	67	95	70	85	71	89	71	85	70	81	69
19....	81	69	81	67	79	57	75	63	79	63	79	66	77	64	79	68	78	62	82	67	76	62	77	67	82	67	80	66
20....	76	55	78	50	78	52	75	45	71	52	72	62	71	55	71	56	73	54	78	58	74	60	76	58	76	57	78	56
21....	80	64	76	63	75	65	74	61	88	60	88	67	81	63	90	61	85	59	91	64	91	64	90	67	88	67	89	67
22....	84	68	84	63	81	63	79	63	82	63	83	70	81	65	85	67	83	67	84	69	82	69	83	69	90	69	85	69
23....	78	54	78	53	77	57	75	51	82	58	76	63	79	55	81	57	84	58	79	59	77	62	78	69	83	61	82	60
24....	70	60	73	56	70	58	78	53	67	63	70	61	76	56	73	60	75	61	70	60	71	62	73	64	86	65	75	64
25....	85	60	85	52	85	54	86	48	80	59	82	62	82	56	83	59	82	60	84	63	80	62	77	62	84	65	82	61
26....	83	66	84	62	83	61	81	58	78	62	79	70	77	65	81	68	77	63	80	66	78	66	79	66	79	64	79	63
27....	81	56	81	51	79	56	76	54	82	61	80	64	79	65	82	61	81	56	83	57	80	63	80	62	83	55	82	59
28....	82	56	86	49	85	53	86	49	87	55	86	63	85	56	87	54	87	52	85	57	86	60	84	58	85	54	86	55
29....	89	61	90	63	86	63	84	63	85	61	86	65	86	64	88	65	81	60	84	65	85	66	84	64	85	68	86	64
30....	83	62	87	60	83	62	81	62	81	62	91	66	83	64	81	62	81	57	84	63	80	64	80	62	81	60	81	57
31....	80	59	82	54	83	55	77	51	83	60	83	65	81	56	84	58	80	57	87	60	83	61	83	59	84	57	83	56
Mns..	86.8	64.2	87.4	61.4	86.4	62.0	84.4	60.3	87.1	63.5	84.7	68.3	83.9	63.2	87.5	64.3	84.6	61.6	87.0	64.3	85.1	66.6	84.2	65.3	85.4	64.0	86.7	64.0

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 1*—Continued.

Date.	New Haven, Conn.		New York.												Pennsylvania.										Atlantic City, N. J.	
			Addison.		Albany.		Binghamton.		Indian Lake.		Little Falls.		New York.		Everett.		Harrisburg.		Philadelphia.		Scranton.		State College.		Wellsboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	76	51	83	37	80	48	80	42	80	28	78	41	75	59	72	57	78	53	77	61	81	49	76	45	82	36	72	55
2....	82	58	88	47	86	60	85	53	87	36	88	53	79	61	80	51	81	63	82	61	85	56	81	58	86	47	72	62
3....	88	61	89	57	92	63	90	60	90	40	93	58	83	63	85	57	87	63	86	64	92	57	85	59	89	56	74	65
4....	88	64	90	63	94	70	86	66	91	58	90	67	85	66	83	60	88	69	90	68	89	66	86	59	86	62	76	68
5....	82	66	94	63	90	72	90	67	90	57	94	65	81	67	80	64	85	71	89	69	87	67	83	64	89	61	76	69
6....	84	67	92	64	94	71	90	67	95	60	95	77	83	68	85	61	87	67	89	69	89	66	87	60	88	60	78	68
7....	84	66	94	57	95	71	91	63	99	58	96	78	84	69	88	58	90	65	90	69	91	64	90	59	92	55	77	69
8....	92	70	95	64	98	72	95	63	93	57	98	64	93	70	89	60	92	70	95	72	94	63	93	65	94	60	83	69
9....	95	73	97	66	96	69	90	70	90	60	93	56	93	75	88	62	92	73	93	74	92	69	89	66	94	65	80	70
10..	90	74	87	66	93	70	88	68	100	58	94	57	91	74	87	65	91	73	94	74	94	68	90	66	90	61	78	70
11....	90	72	85	65	86	69	81	67	90	50	84	67	89	72	82	65	86	68	88	70	80	68	83	66	84	60	85	69
12....	83	71	85	63	88	69	83	64	91	54	85	60	87	71	84	62	87	67	90	70	85	68	83	61	85	61	80	69
13....	74	66	89	59	79	65	85	59	84	48	89	56	75	70	87	62	90	70	87	71	87	64	88	61	88	59	81	70
14....	80	70	89	69	82	70	84	69	87	65	88	67	85	71	86	64	91	73	91	72	84	74	84	66	87	67	78	72
15....	85	70	97	65	89	70	89	68	90	54	91	68	84	71	88	65	89	69	87	73	89	67	88	67	90	65	77	71
16....	91	71	82	61	79	61	79	64	87	58	78	60	91	70	87	64	91	72	94	75	79	71	82	65	80	63	82	69
17....	75	66	90	51	84	57	86	63	80	36	85	56	81	69	88	65	88	71	86	73	87	66	85	65	85	58	78	67
18....	80	69	85	65	79	65	81	61	85	45	87	61	79	70	88	66	77	69	80	70	83	68	75	65	83	64	78	68
19....	79	60	76	54	75	57	66	48	80	50	75	52	76	64	75	59	76	64	79	65	70	62	71	55	73	54	80	63
20....	73	56	75	42	78	51	75	43	75	33	79	44	73	60	68	53	70	57	74	59	75	46	65	50	80	42	75	60
21....	73	66	77	58	71	61	73	60	77	45	67	57	75	68	72	55	70	63	79	66	71	61	68	55	75	57	76	68
22....	82	64	79	56	78	62	72	55	70	46	70	52	80	64	78	57	83	67	83	67	75	58	78	62	77	60	83	68
23....	73	58	75	46	75	53	69	48	71	45	70	48	75	58	77	56	76	60	77	61	73	51	72	65	75	43	77	59
24....	79	56	72	63	79	52	74	50	75	32	77	45	73	61	76	53	65	56	70	61	71	56	68	54	66	54	70	61
25....	81	54	83	58	82	51	79	47	80	31	79	47	80	61	77	56	82	60	84	61	80	54	78	55	83	50	75	59
26....	84	61	79	56	82	61	75	56	79	46	77	55	80	63	76	64	76	63	82	67	77	59	72	56	77	56	76	65
27....	77	63	77	45	77	60	71	52	71	43	72	54	77	63	76	56	79	61	80	65	74	56	74	55	77	45	81	59
28....	83	58	83	47	88	56	81	47	77	39	83	51	80	61	80	50	82	60	83	65	81	50	72	54	80	45	82	60
29....	81	63	83	62	84	64	77	63	80	58	78	63	84	68	81	49	84	67	88	69	83	64	78	56	82	61	85	65
30....	80	65	80	53	81	61	74	56	71	42	76	58	82	65	74	60	79	65	82	69	76	64	74	55	77	52	82	66
31....	75	59	67	52	65	58	64	52	69	37	67	51	76	63	76	53	78	60	81	64	68	54	70	54	.....	.....	76	64
Mns..	81.9	64.1	84.4	57.2	83.8	62.5	80.7	58.4	83.4	47.4	83.1	57.7	81.6	66.3	81.1	59.0	82.9	65.5	84.8	67.5	82.0	61.5	79.6	59.5	a83.1	a56.0	78.2	65.7

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

During a large part of July comparatively moderate temperatures prevailed in the district, especially in the Gulf States; the nights were generally quite cool and agreeable, a feature much appreciated by the urban population, though not conducive to the rapid growth of vegetation, especially cotton, the money crop of the South, which requires hot days and nights for its best development. Few severe local storms occurred during the month, and aside from the considerable deficiencies in precipitation in Florida, North Carolina, and Virginia, in which States drought prevailed toward the close of the month at some points, the meteorological conditions for the month present few features of special interest. As a rule the temperatures were slightly below normal in all sections except Florida, where there was a slight excess, but the average deficiency did not reach as much as a degree in any State. In the greater portion of the district the first half of the month was the coldest, and was followed by a marked change to warmer weather during the last decade, the highest temperatures prevailing from the 24th to 26th.

At Raleigh and several other stations in central North Carolina the rainfall for the month was the least on record for July in 30 years; and the State average for Florida was the smallest received during July except in 1892, 1893, and 1902. The drought at the close of the month was severe enough to injure crops, especially corn, at many places in North Carolina and Virginia.

The atmospheric pressure remained uniformly high over the entire district from the 1st to the 14th, and was high also during briefer intervals subsequently, but local showers were frequent during these periods. Only three disturbances or areas of low atmospheric pressure passed over portions of the district during the month. The first appeared off the coast of Georgia on the 14th–15th, and for a time threatened to be a severe storm along the Atlantic coast line; the second consisted of an ill-defined depression over southern Georgia and Alabama on the 16th and 17th; and the third formed over eastern North Carolina on the 24th–25th. The highest atmospheric pressure for the month was 30.38 inches, at Richmond, Va., on the 2d, and the lowest was 29.61 inches, at Norfolk, Va., on the 24th.

TEMPERATURE.

The range in monthly mean temperatures during summer in Florida is relatively small, but July, 1912, although the State mean, 81.7°, indicates only a small departure from the normal of +0.4°, ranks as a very warm month, higher July means having occurred during the past 20 years only in 1893, 1897, 1901, and 1902. In contrast with the preceding comparatively cool and wet June, the higher temperatures of July in Florida caused much physical discomfort. Throughout the remaining portions of the district monthly mean temperatures were generally slightly below the normals and very uniform; the departures did not exceed 2° at more than two or three places in northeastern Georgia and northwestern Virginia. At by far the larger number of stations throughout the district the monthly means ranged between 75° and 80°, but were slightly lower in Virginia. The highest monthly mean temperature was 83.7°, at Clermont, Fla., and the lowest was 65.8°, at Hot Springs, Va. The mean for the entire district was 79.3°; departure, −0.3°.

In Virginia a period of warm weather occurred during the early part of the month, but in the Carolinas and the Gulf States comparatively cool weather prevailed during most of the first two decades, while the last decade was much warmer. However, sharp but brief regressions of temperature occurred on the 27th or 28th and on the 31st, which gave the minimum temperatures for the month on those dates in all sections. The minimum for the district was 38°, on the 28th, at Hot Springs, Va., but the lowest temperatures were not below 50° in any other portion of the district, mostly ranging between 53° and 64°. Warm weather during the last week gave maximum temperatures of from 97° to 102° on various dates from the 26th to 29th. The moderate temperatures experienced this month in the extreme south were in marked contrast to the intense heat felt in northern portions of the country, extending even into Canada.

PRECIPITATION.

A glance at the precipitation tables for the district will reveal how widespread and frequent were the local showers during the first 20 days of the month; only the last week or 10 days were relatively dry, and it was the greater clearness of the sky that brought about the rise in temperature during the latter period. The frequency of showers, however, was not sufficient to prevent the occurrence of drought in the northern portions of the district. The deficiency in precipitation was over 2 inches in Virginia and North Carolina. In Florida also the month was relatively dry, though without harm to vegetation. In other portions of the district the rainfall was quite close to the normal, but was very irregularly distributed. In each State except Alabama and Virginia some stations received over 10 inches, the maximum amount occurring in western North Carolina and in northeastern Georgia where the two States touch. On the other hand, amounts less than 1 inch were received at a few places in central North Carolina and on the southeastern coast of Florida.

The average rainfall for the district was 4.96 inches and and the departure −0.77 inch. The largest amount for the month was 16.01 inches at Rock House, Macon County, N. C., followed by 13.48 inches at Clayton, Rabun County,

Ga., near by. The smallest amount was 0.57 inch at Chapel Hill, N. C.

The record of excessive precipitation for the month is not important, although amounts exceeding 2.50 inches in 24 hours occurred in all States, generally on irregular dates. In Florida 24-hourly amounts ranging from 2 to over 6 inches fell at 10 stations on the 15th, 16th, or 17th. The maximum heavy rainfall was 7 inches at St. Marys in southeastern Georgia on the 15th; next comes the fall of 6.90 inches at Fernandina, Fla., on the 16th, and then 5.30 inches at Tryon, N. C., on the 5th.

MISCELLANEOUS PHENOMENA.

The number of clear days for the district averaged 12, partly cloudy days 12, cloudy days 7, and days with appreciable rainfall 11. There was considerably less sunshine than usual during the midsummer month. The wind movement as usual was light; only two stations reported maximum winds of 40 miles an hour or over, namely, Pensacola 40 miles from the south on the 21st and Savannah 49 miles from the southeast on the 15th. The latter storm is described below. The prevailing winds were south or southeast in the Gulf States and southwest over the Carolinas and Virginia.

Many local thunderstorms occurred during the month, mostly of a mild character, but quite an exceptional amount of damage by lightning was reported during the month, chiefly in Mississippi, Alabama, and Georgia. During a thunderstorm at Anniston, Ala., where the members of the Alabama Militia were in camp, lightning struck the mess tent of Company B, Second Regiment, instantly killing Charles Kirby and fatally injuring Herbert Pate. Fifteen other soldiers were slightly injured.

At Savannah, Ga., thunderstorms occurred on nine days and were of marked violence on the 11th, 12th, and 24th. On the 11th lightning struck a tree on the county farm about 2 miles from the station under which a gang of convicts with their overseer had sought shelter. Frightened by this they moved into an open field; a second electric discharge followed, killing one of the convicts and stunning the overseer and others. The most violent electrical storm for the month occurred on the 24th. The power house and several other buildings were struck by lightning and the street-car service in the city was crippled for several days.

THE STORM OF JULY 14TH-15TH, 1912.

The following report on the storm near the Georgia coast is taken from notes furnished by Mr. C. J. Doherty, local forecaster, in charge at Savannah, Ga.:

A decided fall in the barometer took place on the 14th, with increasing winds. The regular p. m. reports showed an incipient disturbance near the Georgia coast, and high winds with unusually rough seas prevailed at Tybee Beach during the night. The morning reports of the 15th indicated that the storm had increased slightly in intensity. The weather was thick and threatening, with light intermittent showers which continued during the day and night. After midnight the wind became fresh and gusty. A verifying velocity was first attained at 7.35 a. m. of 36 miles an hour, and thereafter the wind continued high until 10 p. m., with a maximum velocity of 49 miles from the southeast shortly after 11 a. m. on the 15th. During the day the displayman at Tybee reported unusually wild seas, with high winds and swell from the southeast. Northeast storm warnings were displayed from Jacksonville to Charleston. No material damage was reported.

RIVER CONDITIONS.

Very nearly normal river conditions prevailed throughout the district during July. The flood stage was slightly exceeded in the Ocmulgee River at Abbeville, Ga., from the 18th to the 25th, without any damage, and the Pearl River rose to within a tenth of a foot of flood stage at Jackson, Miss., on the 26th. At the close of the month the rivers had generally attained the lowest stages. At a few places, however, the mean river stages for the month were very high. The mean stage of the Savannah River at Augusta, Ga., was 14.5 feet as compared with a normal July stage of 8.1 feet, and is the highest average on record for the month. The highest previous average stages for July were 13.3 feet in 1906, 12.2 feet in 1910, and 12.9 feet in 1881.

THE RICHMOND TORNADO OF MAY 12, 1912.

By JAMES H. KIMBALL, Observer.

Shortly after noon of Sunday, May 12, 1912, the first tornado ever known to have occurred in the vicinity of Richmond was observed by a large number of people. Fortunately no dwellings stood in the path of the storm and no one was injured, but several small structures were demolished and hundreds of trees were blown down. The storm was seen in its incipient stages as it approached from the southwest by a large number of residents of Forest Hill. It appeared as a low, dense, rapidly moving cloud as it crossed the James River, but it did not assume destructive proportions until it neared the western extension of Broad Street. After crossing Broad Street the storm became more violent and throughout the next half mile of its course which lay through a thick growth of pine, it swept close to the ground and destroyed many large trees. The direction of the storm was northeasterly, but the trees that fell were in most cases blown toward some point between northwest and west. A few fell toward the north and one of these was found lying under another that was blown toward the west. The underlying tree is small, not over 8 inches in diameter, but the one above is nearly three times as thick. These trees grew but a few feet apart, but, while the under one seems simply to have been blown over, the one above though perfectly sound was twisted through a positive angle of 180° before it fell. The break occurred about 2 feet above the ground.

Emerging from this wood as a perfectly formed tornado having the characteristic funnel-shaped cloud, the storm crossed the southeast corner of the lawn fronting the residence of Mr. J. D. Carneal. Here an enormous oak was divested of nearly all of its foliage and also of 10 large branches that were twisted off at a uniform height of about 30 feet above the ground. A little farther a windmill and water tank were destroyed and part of the débris carried northward nearly 2 miles. Beyond the Carneal property the storm crossed an open and slightly depressed piece of land at the lowest point of which it unroofed a couple of freight cars standing on the Richmond, Fredericksburg & Potomac track. An open field was then crossed after which the storm entered a thick growth of pine and oak trees through which it cut a path about 100 yards wide. Leaving the wood the storm crossed another open field and then entered the grove of oak, pine, and hickory that adjoins Young's Pond on the south. Here the path spread out to an extreme width of about 1,500 feet. On the north side of the pond a few trees were blown down while on the south side nearly 100 were felled. Beyond the pond the country is open and no traces of destruction were found, so that it is thought the storm was dissipated within a few hundred yards at most of the pond.

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The testimony of several eyewitnesses in connection with a careful examination of the storms' track from end to end, leads to the conclusion that a true tornado had occurred. There is the direct statement of several persons attesting the presence of a funnel-shaped cloud; débris was seen flying high in the air over nearly calm surface conditions indicating strong vertical currents in the neighborhood. Trees and branches were twisted off showing rotary winds, and hail in the form of clear broken fragments all indicate gyratory air currents of great violence. However, the descending visible vortex occurred but twice, lasting each time but a few seconds and must be considered to be an incidental feature occurring within a great mass of air that swept straight ahead at a rate of speed sufficient to prostrate the trees that stood in its path. * * *

TABLE 1.—*Climatological data for July, 1912. District No: 2, South Atlantic and east Gulf States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	8	77.4	0.0	97	14†	58	28†	30	1.89	− 1.88	1.10	0	9	9	21	1	sw.	Rev. Plummer F. Jones.
Ashland	Hanover	221	21	76.0	− 2.0	91	13†	58	28	30	2.29	− 2.73	0.67	0	10	1	29	1	s.	E. L. C. Scott.
Buchanan	Botetourt	820	8	.....	.....	.....	.....	.....	.....	.....	1.41	− 3.43	0.40	0	7	.....	.....	.....	.....	D. D. Booze.
Callaville	Brunswick	250	18	78.2	+ 1.1	97	22	57	28	34	2.71	− 2.84	0.98	0	4	23	7	1	s.	F. M. Gage.
Cape Henry	Princess Anne	20	38	76.8	− 0.8	93	23	64	24	22	1.22	− 4.63	0.79	0	6	16	11	4	sw.	U. S. Weather Bureau.
Catawba	Roanoke	1,760	2	67.1	.....	88	14	44	2	37	3.37	.....	0.85	0	6	19	11	1	w.	State Board Health San.
Charlottesville	Albemarle	800	23	76.2	+ 0.1	95	14	60	2†	27	1.56	− 3.92	0.70	0	10	11	13	7	s.	Leander McCormick Obs.
Clarksville	Mecklenburg	286	18	.....	.....	.....	.....	.....	.....	.....	2.94	− 1.51	1.86	0	6	.....	.....	.....	.....	J. A. Ligon.
Columbia	Fluvanna	246	14	79.0	+ 2.6	94	14	65	2	24	1.78	− 2.31	1.02	0	4	18	8	5	se.	Chesapeake & Ohio Ry.
Danville	Pittsylvania	413	12	.....	.....	.....	.....	.....	.....	.....	2.37	− 1.55	0.84	0	5	.....	.....	.....	.....	C. G. Watkins.
Diamond Springs	Princess Anne	25	2	77.4	.....	95	29	58	29	37	2.02	.....	0.93	0	5	10	19	2	.....	Virginia Truck Experiment Station.
Dry Bridge	Chesterfield	325	1	.....	.....	.....	.....	.....	.....	.....	3.06	.....	0.97	0	9	.....	.....	.....	.....	Dr. E. W. Magruder.
Hampton	Elizabeth City	5	29	78.8	− 0.3	93	16†	65	27	21	.....	.....	.....	0	.....	25	2	4	se.	Normal & Agr. Institute.
Hot Springs	Bath	2,195	20	65.8	− 3.6	91	16	38	28	43	2.84	− 1.01	0.62	0	13	21	8	2	.....	F. M. Terry.
Ivor	Southampton	87	3	77.3	.....	96	16	56	2	32	4.56	.....	2.80	0	5	.....	.....	.....	.....	N. & W. Ry. Experiment Farm.
Lassiter	Goochland	100	2	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.20	0	5	27	3	1	.....	T. J. Davis.
Lexington	Rockbridge	1,060	35	74.8	+ 0.3	92	14	53	27	31	5.65	+ 1.67	1.45	0	10	25	3	3	.....	Virginia Military Institute.
Lynchburg	Campbell	685	41	77.2	− 0.1	93	21	59	31	28	3.64	− 0.39	0.82	0	11	6	24	1	sw.	U. S. Weather Bureau.
Newport News	Warwick	55	9	79.0	.....	97	17	62	28	27	2.76	.....	2.13	0	8	11	16	4	sw.	C. W. Ashby.
Norfolk	Norfolk	91	42	77.8	− 0.6	92	16	64	2	23	1.86	− 3.98	0.67	0	7	14	13	4	s.	U. S. Weather Bureau.
Randolph	Charlotte	334	8	.....	.....	.....	.....	.....	.....	.....	4.49	.....	2.60	0	5	.....	.....	.....	.....	W. J. Abbitt.
Richmond	Henrico	144	33	77.6	− 1.6	95	16	61	2	28	1.25	− 3.17	0.39	0	8	14	13	4	s.	U. S. Weather Bureau.
Roanoke	Roanoke	907	2	74.8	.....	91	25	55	28	33	4.10	.....	1.07	0	12	17	13	1	w.	Reese F. Bell.
Rocky Mount	Franklin	1,150	18	74.2	− 1.6	91	21†	54	31	33	3.85	− 1.27	0.85	0	8	.....	.....	.....	.....	G. W. B. Hale.
Ruckersville	Greene	625	1	76.1	.....	97	14	54	28†	34	3.82	.....	1.36	0	10	14	12	5	.....	Dr. Jesse Ewell.
Spottsville (near)	Surry	15	24	78.4	+ 0.5	95	14†	60	2†	30	1.29	− 4.95	0.41	0	9	18	6	7	sw.	B. W. Jones.
Williamsburg	James City	70	21	78.0	+ 1.2	95	17	58	2	29	.....	.....	.....	0	.....	.....	.....	.....	sw.	Eastern State Hospital.
North Carolina.																				
Albemarle	Stanly	700	....	78.0	.....	94	22	59	31	30	5.08	.....	1.71	0	13	20	8	3	sw.	M. J. Harris.
Belhaven	Beaufort	4	3	79.0	.....	98	22	61	3	29	2.70	.....	1.40	0	5	18	12	1	s.	A. L. Bell.
Brewers	Wilkes	1,950	15	74.4	− 1.2	91	22†	55	31	30	7.28	+ 1.68	1.96	0	16	5	17	9	w.	W. L. Brewer.
Caroleen	Rutherford	806	12	77.7	− 0.6	94	22	59	31	26	4.01	− 0.68	0.91	0	12	5	24	2	sw.	S. B. Tanner.
Chalybeate Springs	Harnett	500	6	78.2	.....	94	22	58	31	35	2.99	.....	0.95	0	9	17	12	2	se.	J. A. Smith.
Chapel Hill	Orange	500	54	78.9	+ 0.2	97	22	60	29†	35	0.57	− 4.31	0.12	0	6	12	17	2	sw.	Prof. A. H. Patterson.
Charlotte	Mecklenburg	773	36	77.7	− 1.0	93	22	65	2	22	3.56	− 1.93	0.84	0	18	4	17	10	sw.	U. S. Weather Bureau.
Chimney Rock	Rutherford	1,150	2	74.4	.....	92	22†	58	27†	30	11.20	.....	3.50	0	15	14	11	6	w.	J. M. Flack.
Durham (near)	Durham	406	3	.....	.....	.....	.....	.....	.....	.....	3.38	.....	1.24	0	5	.....	.....	.....	.....	J. C. Michie.
Eagletown	Northampton	66	7	77.4	.....	93	16†	62	2†	27	3.93	.....	1.12	0	8	16	13	2	sw.	J. T. Elliott.
Edenton	Chowan	30	18	78.3	− 1.3	94	17	60	28	30	4.45	− 2.67	2.30	0	4	11	11	9	s.	E. R. Conger.
Elizabeth City	Pasquotank	8	....	79.2	.....	96	16†	63	2†	26	1.85	.....	0.70	0	3	20	5	6	sw.	W. J. Simmons.
Elizabethtown	Bladen	60	1	.....	.....	.....	.....	.....	.....	.....	2.20	.....	0.70	0	4	.....	.....	.....	.....	J. W. Hall, jr.
Enfield (near)	Halifax	99	1	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.45	0	6	.....	.....	.....	.....	T. S. Inborden.
Fayetteville	Cumberland	170	25	79.3	+ 0.2	95	29	65	2†	27	5.25	− 1.93	1.35	0	12	17	4	10	s.	Frank Glover.
Globe (near)	Caldwell	1,800	....	72.5	.....	90	21	55	31	27	10.09	.....	2.34	0	16	7	14	10	s.	Julius L. Gragg.
Goldsboro	Wayne	102	42	77.4	− 2.4	93	22	63	2	24	4.17	− 2.34	1.21	0	9	.....	.....	.....	s.	Mrs. N. B. Taylor.
Gorge (near)	Caldwell	1,358	....	72.2	.....	89	22	53	27†	31	11.47	.....	2.18	0	20	0	26	5	sw.	A. J. Bagley.
Graham	Alamance	656	10	.....	.....	.....	.....	.....	.....	.....	2.09	− 2.42	1.25	0	10	.....	.....	.....	.....	Dr. W. R. Goley.
Greensboro	Guilford	842	31	75.8	− 2.3	91	24†	61	31	23	2.25	− 2.87	0.89	0	10	.....	.....	.....	sw.	A. H. Horry.
Greenville	Pitt	75	19	.....	.....	.....	.....	.....	.....	.....	3.76	− 3.03	1.41	0	10	.....	.....	.....	.....	R. M. Hearne.
Hatteras	Dare	11	38	78.4	− 0.2	91	22	69	2	15	1.55	− 4.58[3]	0.79	0	9	17	12	2	sw.	U. S. Weather Bureau.
Henderson	Vance	508	19	77.6	− 0.5	91	17†	62	1	26	1.90	− 3.89	0.45	0	8	10	21	0	se.	Enoch Powell.
Kinston	Lenoir	46	14	79.2	− 1.6	97	22	62	3	27	4.96	− 1.73	1.21	0	12	15	11	5	s.	H. C. V. Peebles.
Lenoir	Caldwell	1,186	39	75.0	0.0	93	22	53	31	33	5.17	+ 0.22	1.46	0	12	19	9	3	s.	G. M. Goforth.
Lincolnton	Lincoln	994	7	75.2	.....	92	22†	56	31	30	6.32	.....	1.32	0	15	0	31	0	sw.	S. P. Houser.
Louisburg	Franklin	375	21	78.8	+ 0.7	93	31	62	28	29	2.99	− 2.38	1.80	0	6	12	16	3	s.	T. B. Wilder.
Lumberton	Robeson	102	29	79.8	− 0.5	97	22	62	29	33	2.35	− 3.59	0.83	0	11	.....	.....	.....	ne.	B. M. Davis.
Manteo	Dare	12	7	76.8	.....	91	22	61	28†	24	2.34	.....	1.64	0	5	21	9	1	sw.	U. S. Weather Bureau.
Marion	McDowell	1,425	20	74.2	− 1.4	92	24	56	27†	27	6.30	+ 0.90	1.35	0	18	11	19	1	w.	Sergt. Thomas McGuire.
Middletown	Hyde	4	1	77.0[3]	.....	92	21	61	4	23	3.92	.....	2.87	0	6	12	17	2	s.	J. S. Mann.
Moncure	Chatham	145	18	78.0	− 0.8	96	25	58	31	34	1.92	− 3.02	0.45	0	9	14	11	6	sw.	B. J. Utley.
Monroe	Union	586	18	78.6	+ 0.6	95	22	59	31	32	4.25	− 0.98	1.27	0	7	19	9	3	sw.	T. A. Ashcraft.
Morganton	Burke	1,135	25	75.0	− 1.0	92	22	56	27†	28	6.32	+ 1.18	2.47	0	15	21	6	4	se.	J. B. P. Massey.
Mount Airy	Surry	1,048	24	74.8	− 0.4	92	24	53	28	33	6.33	+ 0.55	1.60	0	14	11	13	7	se.	Prof. A. H. Merritt.
Mount Holly	Gaston	616	15	.....	.....	.....	.....	.....	.....	.....	6.66	+ 0.30	2.52	0	8	.....	.....	.....	.....	J. W. Holland.
Nashville	Nash	190	8	78.4	.....	94	16†	60	28	33	2.53	.....	0.99	0	7	7	16	8	s.	J. B. Boddie.
Neuse	Wake	266	....	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.50	0	6	.....	.....	.....	.....	Gaston H. Mooneyham.
Newbern	Craven	12	30	77.3	− 1.7	94	22	61	3†	29	5.70	− 1.94	0.83	0	13	.....	.....	.....	ne.	J. B. Hill.
North Wilkesboro(near)	Wilkes	1,700	....	74.0	.....	89	22†	58	2	22	8.43	.....	1.53	0	10	.....	.....	.....	sw.	Dr. Charles A. Willis.
Parkersburg	Sampson	121	....	79.2	.....	99	26	61	5†	32	2.10	.....	0.40	0	10	15	11	5	sw.	E. J. Conway.
Pinehurst	Moore	650	8	78.0	.....	94	29	64	6	25	4.52	.....	2.03	0	8	10	6	15	sw.	General office.
Pittsboro	Chatham	480	20	77.2	− 0.2	93	16	56	31	34	1.28	− 4.29	0.50	0	7	9	14	8	s.	Mrs. J. F. Alston.
Raleigh	Wake	390	41	78.6	+ 0.1	94	22	64	2	24	1.28	− 4.83	0.67	0	9	6	17	8	sw.	U. S. Weather Bureau.
Ramseur	Randolph	442	5	77.1	.....	93	16†	58	31	32	2.53	.....	0.86	0	9	16	10	5	sw.	A. H. York.
Randleman	do	810	7	.....	.....	.....	.....	.....	.....	.....	2.82	.....	2.18	0	4	.....	.....	.....	.....	J. R. Walton.
Reidsville	Rockingham	828	13	.....	.....	.....	.....	61	1†	.....	2.02	− 3.22	0.68	0	8	1	17	13	se.	E. N. Redd.
Rock House	Macon	3,100	20	68.3	− 3.2	83	24	53	27	24	16.01	+ 7.64	3.19	0	19	7	12	12	s.	Barry C. Hawkins.
Rocky Mount	Nash	105	1	.....	.....	.....	.....	.....	.....	.....	1.93	.....	0.98	0	5	.....	.....	.....	.....	G. P. Womble.
Salisbury	Rowan	760	28	78.0	− 1.0	93	22†	61	28	28	5.33	+ 0.46	1.34	0	12	15	6	10	w.	Miss Thelma Wilkinson.
Saxon	Stokes	900	20	74.4	− 2.1	93	24	56	31	32	3.13	− 1.18	1.05	0	11	7	13	11	sw.	R. P. McAnally.
Scotland Neck	Halifax	80	8	75.0	.....	92	22	59	2†	26	2.18	.....	0.61	0	9	6	15	10	sw.	J. Y. Savage.
Settle	Iredell	700	16	75.4	− 1.9	92	25	56	27†	30	2.68	− 3.21	0.82	0	8	9	13	9	sw.	C. H. Smith.
Sloan	Duplin	50	19	78.2[3]	− 0.6	94	22	61	3†	28	3.27	− 4.24	1.25	0	10	.....	.....	.....	.....	D. M. Sholar.
Smithfield	Johnston	151	22	79.1	− 0.3	95	22	62	28	30	3.32	− 3.45	1.30	0	10	18	5	8	s.	Edwin S. Sanders.
Snow Hill	Greene	80	7	78.2[3]	.....	94	22	62	5†	27	4.13	.....	1.12	0	12	5	23	3	s.	L. J. H. Mewborn.
Southern Pines	Moore	519	22	78.6	− 0.8	94	22	64	2	25	4.10	− 3.55	1.70	0	8	17	10	4	.....	Mrs. P. H. Beck.
Southport	Brunswick	18	57	80.8	+ 0.4	98	22	65	3	21	2.14	− 4.67	1.30	0	6	9	21	1	sw.	Mrs. C. E. Taylor.
Statesville	Iredell	950	24	75.4	− 1.5	91	22†	59	27†	28	7.76	+ 2.95	2.59	0	10	6	22	3	sw.	D. Matt Thompson.
Tarboro	Edgecombe	50	27	79.6	− 0.3	98	22	61	4	28	4.07	− 2.28	2.25	0	12	.....	.....	.....	.....	E. V. Zoeller.
Tryon (near)	Polk	1,300	....	76.3	.....	92	22	64	27	21	11.54	.....	5.30	0	15	10	16	5	.....	W. T. Lindsey.
Weldon	Halifax	81	40	77.2	− 2.2	92	22	62	2†	26	2.99	− 2.41	1.00	0	11	.....	.....	.....	s.	H. S. S. Cooper.
Willard	Pender	51	4	78.0	.....	94	22	62	3	28	4.10	.....	1.72	0	10	18	3	10	s.	J. H. Jefferies.
Wilmington	New Hanover	52	41	79.0	+ 0.3	94	22	65	3	19	2.81	− 4.16	1.73	0	10	7	21	3	sw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1912. District No. 2*—Continued.

Station	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Obser ers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Carolina.																				
Aiken	Aiken	565	27	80.7	− 0.5	102	16	60	17	31	1.46	− 3.65	0.70	0	6	26	2	3	w.	C. E. Carman.
Allendale	Barnwell	186	23	80.6	− 0.6	97	24	66	6	29	4.11	− 1.46	1.30	0	7	23	0	8	.....	Richard Hiers.
Anderson	Anderson	764	10	79.6	+ 0.7	99	25	63	27	29	6.22	+ 1.33	2.50	0	11	13	0	18	w.	H. H. Rusell.
Batesburg	Lexington	656	23	79.2	− 0.7	94	24†	64	31	29	3.54	− 1.78	0.83	0	7	14	4	13	nw.	E. J. Hite.
Blackville	Barnwell	296	22	81.0	− 0.7	100	24†	64	6	31	5.45	+ 0.53	1.67	0	13	5	13	13	sw.	Miss M. E. Lange.
Blairs	Fairfield	293	6	.....	.....	.....	.....	.....	.....	.....	3.12	.....	0.71	0	10	12	13	6	s.	John R. Ragsdale.
Bowman	Orangeburg	160	10	79.0	− 1.5	97	25	63	7	28	5.86	+ 1.19	2.03	0	13	14	16	1	w.	B. O. Evans.
Broxton	Hampton	.....	1	.....	.....	.....	.....	.....	.....	.....	7.95	.....	1.98	0	8	18	7	6	.....	Thomas D. Williams.
Calhoun Falls	Abbeville	508	18	.....	.....	.....	.....	.....	.....	.....	6.88	+ 1.43	2.98	0c	10	12	11	8	se.	L. M. Parker.
Camden	Kershaw	222	45	81.2	.....	96	24†	66	31	30	3.87	− 1.13	1.00	0	9	19	9	3	se.	W. C. Brown.
Catawba	York	562	6	.....	.....	.....	.....	.....	.....	.....	6.08	.....	1.50	0	16	9	9	13	s.	James C. Faris.
Chappells	Newberry	402	6	.....	.....	.....	.....	.....	.....	.....	5.90	.....	1.40	0	10	15	0	16	w.	W. R. Zimmerman.
Charleston	Charleston	48	41	80.6	− 0.7	97	30	70	2	21	3.05	− 4.21	1.38	0	12	4	18	9	se.	U. S. Weather Bureau.
Cheraw	Chesterfield	144	23	78.8	− 1.1	96	22	64	28	27	5.57	− 0.43	2.33	0	15	13	8	10	e.	J. H. Powe.
Clemson College	Oconee	850	20	77.0	− 1.8	93	25	62	31	22	4.56	− 0.77	1.02	0	11	12	14	5	ss	Prof. John N. Hook.
Columbia	Richland	351	25	80.1	− 1.0	96	24	66	6	26	4.02	− 2.04	1.34	0	11	6	16	9	sw.	U. S. Weather Bureau.
Conway	Horry	25	19	80.0a	+ 0.2	98	22†	62	8	30	4.18	− 1.58	0.76	0	13	10	0	21	w.	Paul Quattlebaum.
Dillon	Dillon	100	7	79.4	− 1.2	94	22†	64	28	29	5.20	− 0.56	1.11	0	15	.....	.....	.....	.....	A. E. Rowell.
Edisto	Bamberg	127	24	.....	.....	.....	.....	.....	.....	.....	4.49	.....	0.92	0	10	14	7	10	.....	Nathan Jenkins.
Effingham	Florence	106	19	.....	.....	.....	.....	.....	.....	.....	5.42	+ 0.57	0.96	0	11	17	0	14	sw.	H. B. McCall.
Ferguson	Berkeley	51	3	79.8a	+ 0.7	96	22†	66	6†	25	2.50	− 3.66	0.95	0	12	8	3	20	sw.	Dr. J. S. Des Portes.
Florence	Florence	136	23	79.8	− 1.6	97	22	66	7†	26	5.06	− 0.54	1.30	0	13	14	10	7	sw.	H. K. Gilbert.
Georgetown	Georgetown	12	18	80.6	+ 0.1	95	26	67	3	20	3.07	− 4.32	1.02	0	10	8	23	0	.....	A. P. Hazard.
Greenville	Greenville	989	19	77.6	+ 1.6	98	25	58	27	30	4.89	− 0.80	2.10	0	14	12	9	10	e.	Spartan Goodlette.
Greenwood	Greenwood	671	23	79.2	− 0.8	95	25†	64	27	29	7.29	+ 2.21	2.18	0	8	15	0	16	w.	M. M. Calhoun.
Heath Springs	Lancaster	568	10	77.4	.....	96	21	63	8†	29	6.83	.....	2.00	0	13	0	22	9	w.	Charlie Bowers.
Kingstree	Williamsburg	54	23	79.6	− 1.0	99	25	64	5	28	5.91	+ 0.08	1.19	0	11	23	3	5	e.	A. O. Matthews.
Liberty	Pickens	900	17	78.2	− 0.9	94	22	62	31	26	8.86	+ 3.46	2.02	0	19	8	22	1	sw.	John T. Boggs.
Little Mountain	Newberry	711	18	79.6	− 1.0	96	24†	65	6†	28	6.06	+ 1.16	1.40	0	11	25	3	3	w.	J. M. Sease, M. D.
Meriwether	Edgefield	.....	2	80.6b	.....	97	25	65	31†	30	5.36	.....	.....	0	.....	.....	.....	.....	.....	William S. Middleton.
Monetta	Aiken	.....	.....	79.7	.....	96	24†	65	6	27	3.74	.....	0.87	0	11	12	15	4	sw.	Joseph M. Johnson.
Newberry	Newberry	502	7	80.8	+ 0.5	99	25	64	28	31	3.21	− 2.16	1.04	0	11	4	17	10	sw.	W. G. Peterson.
Pelzer	Anderson	873	6	.....	.....	.....	.....	.....	.....	.....	5.60	.....	1.90	0	6	10	3	18	s.	J. M. Ward.
Pinopolis	Berkeley	55	18	.....	.....	.....	.....	.....	.....	.....	10.47	+ 4.25	2.10	0	15	8	10	13	se.	Miss E. P. Ravenel.
St. George	Dorchester	109	23	79.6	− 1.2	98	25†	67	7	25	7.82	+ 1.84	1.80	0	15	26	0	5	.....	G. F. Lewis.
St. Matthews	Calhoun	209	23	79.2	− 0.8	93	29	67	4†	21	4.43	− 1.34	0.82	0	12	19	0	12	s.	J. S. Wannamaker.
Saluda	Saluda	530	9	81.3	.....	98	29	64	28	34	4.97	.....	1.28	0	10	18	12	1	w.	Mrs. F. V. J. Maxwell.
Santuc	Union	572	16	81.0	+ 1.8	99	25†	64	27	34	4.70	− 0.29	1.25	0	13	7	22	2	e.	E. W. Jeter.
Smiths Mills	Williamsburg	62	16	.....	.....	.....	.....	.....	.....	.....	1.61	− 4.81	0.41	0	8	24	0	7	e.	W. G. Walker.
Society Hill	Darlington	75	14	78.3	− 1.1	92	24	64	10†	24	5.06	− 1.12	1.28	0	11	8	14	9	sw.	Maj. J. J. Lucas.
Spartanburg	Spartanburg	875	20	78.4	− 0.9	94	24†	60	31	29	2.96	− 1.62	1.47	0	9	1	0	30	.....	F. P. Robinson.
Summerville	Dorchester	75	14	79.6	− 0.1	96	30†	66	6	27	3.83	− 2.61	0.77	0	13	10	19	2	sw.	Miss E. H. Gadsden.
Trenton	Edgefield	620	18	78.6	− 1.8	95	22†	60	18†	30	4.62	− 1.15	1.54	0	8	11	20	0	s.	C. A. Long.
Walterboro	Colleton	69	7	82.0	.....	100	26†	62	2	31	7.27	.....	1.52	0	13	22	9	0	.....	B. Levy.
Winnsboro	Fairfield	545	21	78.8	− 0.3	95	24	65	7†	20	8.09	+ 3.88	1.40	0	14	15	14	2	se.	J. W. Seigler.
Winthrop College	York	690	12	79.0	− 0.8	94	25†	65	27†	27	6.80	+ 2.60	1.30	0	16	0	27	4	sw.	E. R. Rivers.
Yemassee	Hampton	23	16	79.6	− 1.8	97	23	64	6	30	5.21	− 1.55	0.90	0	14	23	1	7	se.	J. G. Hutson.
Georgia.																				
Abbeville	Wilcox	180	9	.....	.....	.....	.....	.....	.....	.....	6.47	.....	2.81	0	12	7	7	17	w.	W. H. Calhoun.
Adairsville	Bartow	772	20	78.0	− 0.6	96	25	60	31	32	5.23	+ 0.08	1.35	0	10	.....	.....	.....	.....	Mrs. R. C. Evins.
Albany	Dougherty	232	25	82.0	− 0.9	97	31	69	1†	28	4.96	− 0.72	2.17	0	10	.....	.....	.....	sw.	George C. Brosnan.
Allapaha	Berrien	293	23	80.8	− 0.7	96	24†	66	31	29	5.01	− 0.78	1.26	0	14	16	5	10	ne.	J. F. Rice.
Americus	Sumter	362	27	79.6a	.....	99	29†	61	2†	30	3.90	− 1.24	1.20	0	9	.....	.....	.....	.....	C. W. Lamar.
Athens	Clarke	694	30	78.6	+ 0.3	95	23†	61	31	31	6.28	+ 1.41	1.91	0	15	12	12	7	e.	C. D. Cox.
Atlanta	Fulton	1,218	47	77.2	− 1.4	93	25	66	3	21	4.66	− 0.42	0.78	0	18	7	4	20	e.	U. S. Weather Bureau.
Augusta	Richmond	180	66	80.4	− 1.3	96	24	69	31	24	5.57	+ 0.79	2.64	0	13	7	16	8	se.	Do.
Bainbridge	Decatur	119	20	81.3	− 0.4	99	24†	67	27	26	5.35	− 1.13	1.05	0	14	.....	.....	.....	sw.	Mrs. C. O. Wimberey.
Barnesville	Pike	875	3	80.0	.....	98	20†	66	7	31	4.86	.....	1.90	0	11	12	9	10	se.	C. H. Butler.
Butler	Taylor	650	11	.....	.....	.....	.....	.....	.....	.....	4.53	− 1.74	1.23	0	8	.....	.....	.....	w.	Mrs. Mamie F. Wallace.
Camak	Warren	613	20	80.4	0.0	98	25	66	7	26	7.04	+ 1.75	3.00	0	10	5	10	16	.....	J. A. Chapman.
Canton	Cherokee	894	21	.....	.....	.....	.....	.....	.....	.....	6.78	+ 2.13	2.92	0	11	10	9	12	.....	G. W. Evans.
Carlton	Madison	557	13	.....	.....	.....	.....	.....	.....	.....	3.40	− 1.24	0.57	0	11	.....	.....	.....	w.	M. C. Power.
Clayton	Rabun	2,100	18	74.5	+ 0.1	89	22†	62	26	27	13.48	+ 6.10	4.31	0	14	8	6	17	.....	A. J. Duncan.
Columbus	Muscogee	262	24	81.4	+ 0.3	99	25	68	3†	24	4.99	− 1.10	1.43	0	12	.....	.....	.....	e.	A. J. Land.
Concord	Pike	850	.....	77.4	.....	94	25	66	31	25	6.21	.....	1.15	0	14	.....	.....	.....	.....	C. T. Smith.
Covington	Newton	800	20	.....	.....	.....	.....	.....	.....	.....	6.40	+ 1.53	1.05	0	13	.....	.....	.....	e.	Mrs. Sarah E. Cruse.
Dahlonega	Lumpkin	1,519	20	75.0	− 0.3	90	23	57	31	27	6.14	+ 0.25	1.09	0	18	7	20	4	se.	Prof. B. P. Gaillard.
Diamond	Gilmer	2,020	20	73.2a	− 1.1	88	25†	55	31	27	7.25	+ 0.70	1.30	0	20	8	15	8	.....	R. A. Kimzey.
Dublin	Laurens	452	18	81.8	.....	99	31	65	31	34	5.54	− 0.08	1.14	0	12	13	12	6	e.	Mrs. M. E. Martin.
Eastman	Dodge	361	20	81.4	− 0.6	97	25	67	2	28	6.72	+ 0.71	3.04	0	13	12	8	11	w.	Mrs. H. T. Bohannon.
Eatonton	Putnam	.....	8	79.3	.....	97	25	62	31	31	3.79	.....	1.94	0	9	.....	.....	.....	.....	Prof. W. C. Wright.
Elberton	Elbert	710	20	78.4	− 1.0	94	23†	60	31	33	4.63	+ 1.28	0.95	0	10	.....	.....	.....	s.	H. A. Roebuck.
Experiment	Spalding	946	12	78.4	− 0.7	94	25	66	27	24	5.70	+ 2.15	1.86	0	14	6	18	7	.....	Prof. Martin V. Calvin.
Fort Gaines	Clay	166	24	81.6	+ 0.2	99	30	67	27†	31	7.51	+ 1.62	2.00	0	12	.....	.....	.....	se.	Miss Eva. T. Graham.
Gainesville	Hall	1,254	33	75.6	− 2.4	93	25	56	31	30	8.79	+ 3.91	3.40	0	13	7	7	17	e.	W. C. Walker.
Glennville	Tattnall	.....	7	81.1	.....	96	23	67	3†	24	11.83	.....	2.81	0	14	.....	.....	.....	w.	William C. Barnard.
Gore	Chattooga	.....	13	77.5	0.0	93	23	60	31	30	7.89	+ 2.35	1.99	0	16	11	14	6	s.	H. M. Ponder.
Granite Hill	Hancock	.....	.....	78.4	.....	96	25	64	31	28	5.91	.....	2.06	0	11	.....	.....	.....	w.	George White, jr.
Greensboro	Greene	598	10	79.0	.....	96	20†	62	30	31	4.92	− 0.04	1.70	0	11	11	9	11	w.	R. L. Caldwell.
Griffin	Spalding	975	23	78.2	− 1.6	96	25	65	27†	30	6.23	+ 1.21	2.80	0	13	11	9	11	.....	J. M. Mathews.
Harrison	Washington	378	13	80.4	0.0	97	25	67	13†	27	2.62	− 1.97	1.27	0	7	.....	.....	.....	s.	C. L. Wood.
Hawkinsville	Pulaski	235	16	.....	.....	98	23†	.....	.....	.....	6.62	+ 1.24	1.40	0	13	.....	.....	.....	.....	R. H. Wood.
Lisbon	Lincoln	.....	5	79.8	.....	98	25	63	31	32	4.32	.....	1.88	0	13	.....	.....	.....	.....	B. J. Du Bose.
Lost Mountain	Cobb	.....	12	76.2	− 2.3	93	24†	59	1	27	9.19	+ 4.72	2.40	0	13	.....	.....	.....	.....	A. N. Mayes.
Louisville	Jefferson	259	20	80.2	− 0.2	97	25	67	1†	27	4.18	− 1.36	1.34	0	8	.....	.....	.....	.....	J. C. Little.
Lumber City	Telfair	150	3	.....	.....	.....	.....	.....	.....	.....	6.65	.....	2.60	0	10	16	6	9	e.	Walter A. Hilton.
Macon	Bibb	370	31	80.3	− 0.9	96	25	66	31	28	6.09	+ 1.59	1.84	0	14	5	16	10	se.	U. S. Weather Bureau.
Marshallville	Macon	500	19	80.4	− 1.1	99	29	65	31	31	6.37	+ 0.87	1.27	0	14	5	15	11	e.	E. C. Bryan.
Milledgeville	Baldwin	276	24	81.6	+ 0.8	98	25†	68	2	25	2.58	− 2.62	0.90	0	11	17	6	8	s.	Prof. O. M. Cone.
Millen	Jenkins	158	24	82.2	+ 0.4	100	29†	64	31	36	5.45	− 0.37	1.55	0	10	.....	.....	.....	se.	M. G. McComb.
Montezuma	Macon	292	7	.....	.....	.....	.....	.....	.....	.....	5.51	.....	1.58	0	11	.....	.....	.....	ne.	J. C. Collins.
Monticello	Jasper	800	17	79.6	− 0.5	96	24†	65	31	31	3.63	− 1.49	1.76	0	10	.....	.....	.....	.....	Miss Maude Penn.
Newman	Coweta	959	23	78.6	− 1.1	95	23†	64	27	30	2.67	− 2.42	0.46	0	12	.....	.....	.....	.....	Mrs. Ida J. Milner.
Norcross	Gwinnett	1,078	2	.....	.....	.....	.....	.....	.....	.....	7.92	.....	3.30	0	13	12	6	13	.....	W. O. Medlock.

TABLE 1.—*Climatological data for July, 1912. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Continued.																				
Point Peter	Oglethorpe	600	23	78.2	− 0.9	96	20†	60	31	32	2.97	− 2.16	1.08	0	8	....	....	....	se.	C. M. Witcher.
Poulan	Worth	365	21	81.0	− 1.1	97	25	66	27†	29	3.07	− 3.63	0.93	0	13	....	....	....	....	C. T. Merritt.
Putnam	Marion	.....	12	79.8	− 1.0	99	31	64	31	35	5.06	− 0.69	2.32	0	9	10	8	13	s.	Mrs. J. M. Collum.
Quitman	Brooks	173	26	81.4	− 0.1	98	26	68	12	21	2.10	− 5.76	0.60	0	8	....	....	....	ne.	A. B. Jones.
Ramhurst	Murray	.....	19	75.2	− 1.9	86	29†	60	27	24	4.11	− 1.04	0.97	0	13	10	14	7	sw.	D. E. Humphreys.
Resaca	Gordon	657	18	....	....	....	....	....	....	....	7.99	+ 3.88	2.40	0	12	11	6	14	s.	D. A. Norton.
Rome	Floyd	576	53	78.4	− 1.3	99	25	60	26†	34	4.94	+ 0.94	1.32	0	13	17	4	10	e.	W. M. Towers.
St. George	Charlton	.....	5	81.2	.....	97	26	65	12	26	7.26	.....	2.15	0	9	....	....	....	se.	A. N. Lund.
St. Marys	Camden	20	21	81.0[a]	0.0	100	26	69	12	22	7.68	+ 1.58	7.00	0	5	....	....	....	e.	David C. Sterling.
Savannah	Chatham	65	61	80.6	− 1.1	97	26	70	11	23	4.87	− 2.02	1.48	0	12	5	13	13	se.	U. S. Weather Bureau.
Statesboro	Bulloch	253	12	82.7	+ 1.1	100	31	66	3	31	6.28	− 0.40	2.15	0	11	....	....	....	s.	W. C. Cromley.
Talbotton	Talbot	750	18	80.3	+ 1.1	97	25	66	31	28	4.21	− 1.01	1.10	0	14	....	....	....	sw.	Dr. E. L. Bardwell.
Tallapoosa	Haralson	1,150	13	77.2	− 1.0	94	25†	60	31	29	5.08	− 0.23	1.10	0	15	....	....	....	....	Frederick Ellison.
Thomasville	Thomas	273	30	80.8	− 0.5	97	30	67	31	30	5.34	− 1.41	2.13	0	15	7	15	9	e.	U. S. Weather Bureau.
Toccoa	Stephens	1,050	26	75.5	− 2.3	94	24	59	29	24	7.07	+ 1.11	1.23	0	14	....	....	....	....	Mrs. Alice N. Starke.
Valdosta	Lowndes	220	7	82.4	.....	100	27	66	12	32	6.85	.....	3.00	0	6	....	....	....	w.	Miss Annie Twitty.
Valona	McIntosh	10	14	81.4	+ 1.0	96	24†	68	5†	25	6.55	− 0.31	4.25	0	4	15	5	11	se.	George E. Atwood.
Washington	Wilkes	630	21	79.8	− 0.4	97	25	65	31	29	5.72	+ 0.53	2.38	0	8	14	9	8	ne.	Miss Ella B. Smith.
Waycross	Ware	131	23	82.6	+ 0.4	99	24†	68	3	29	5.69	− 0.30	1.93	0	9	....	....	....	s.	Thomas Sasser.
Waynesboro	Burke	86	20	79.8	− 1.0	100	25	62	6	33	4.95	− 0.56	1.50	0	8	9	11	11	w.	Mrs. H. W. Blount.
West Point	Troup	620	22	80.8	− 0.7	98	24	65	27	31	6.48	+ 1.84	1.63	0	17	....	....	....	....	E. N. Dunn.
Woodbury	Meriwether	641	9	.....	.....	.....	.....	.....	.....	.....	4.38	.....	1.12	0	16	18	5	8	.....	E. T. Riggins.
Florida.																				
Apalachicola	Franklin	24	8	82.6	.....	97	26	72	3†	18	7.30	.....	5.20	0	7	19	11	1	w.	G. H. Whiteside.
Arcadia	De Soto	61	11	82.6	+ 0.8	95	23†	69	7	22	3.31	− 5.68	0.83	0	14	15	16	0	e.	C. S. Bushnell.
Archer	Alachua	92	27	81.4[f]	− 0.3	96	26	68	12	23	.....	.....	.....	0	....	....	....	....	.....	R. B. Hodgson.
Avon Park	De Soto	150	13	81.4	− 0.2	97	28	68	2†	23	2.90	− 5.37	0.48	0	15	14	17	0	e.	William King.
Bartow	Polk	115	24	81.6	0.0	99	28	67	7	27	7.03	− 0.25	1.90	0	17	10	9	12	se.	William Hood.
Blountstown	Calhoun	.....	3	82.2	.....	97	30†	65	27†	32	4.62	.....	1.00	0	9	....	....	....	sw.	C. L. Hobbs.
Bradentown	Manatee	10	28	80.8	− 0.2	92	2†	71	3†	21	9.03	− 1.67	2.10	0	15	....	....	....	ne.	H. H. Ten Broeck.
Brooksville	Hernando	126	19	82.0	+ 1.3	96	22†	69	6†	24	7.90	− 2.02	1.76	0	12	11	18	2	w.	C. C. Peck.
Carrabelle	Franklin	10	13	83.2[e]	+ 1.5	99	26	68	11†	28	6.60	+ 0.04	3.40	0	6	....	....	....	....	J. J. Blomquist.
Cedar Key	Levy	10	23	82.5	+ 0.4	93	27†	68	10	21	6.27	− 2.38	3.60	0	8	....	....	....	w.	J. B. Lutterloh.
Clermont	Lake	105	19	83.7	+ 0.9	104	27	70	2†	26	5.68	− 1.89	1.20	0	11	7	23	1	s.	S. S. Fesler.
Crescent City	Putnam	.....	14	83.6	+ 1.8	101	27	68	2	28	4.43	− 2.12	1.10	0	9	15	16	0	.....	J. B. Shiver.
De Land	Volusia	27	15	81.8	+ 1.6	100	27	65	2	27	4.95	.....	0.88	0	16	9	22	0	se.	A. C. Haynes.
Eustis	Lake	56	21	82.7	+ 0.5	100	27	66	2	29	5.71	− 1.58	1.87	0	13	20	8	3	se.	C. T. Smith.
Federal Point	Putnam	5	20	82.4	+ 1.5	99	27	67	7	27	5.76	− 1.20	1.95	0	16	16	13	2	sw.	E. S. Hubbard.
Fenholloway	Taylor	75	5	82.0[b]	.....	99	26†	69	7†	29	8.38	.....	5.20	0	6	....	....	....	sw.	J. Wigglesworth.
Fernandina	Nassau	10	19	81.2	+ 0.2	97	27	71	2†	19	8.22	+ 2.08	6.90	0	8	27	0	4	se.	W. B. C. Duryee.
Fort Meade	Polk	125	23	82.3	+ 1.7	99	27†	64	14	34	10.92	+ 1.91	4.16	0	14	18	10	3	sw.	G. L. Brodrick.
Fort Myers	Lee	12	40	80.8	− 0.1	91	1†	70	7	18	8.42	+ 0.20	2.00	0	13	16	15	0	s.	Miss M. M. Gardner.
Fort Pierce	St. Lucie	6	11	82.0	+ 1.8	98	24	71	5†	23	0.75	− 5.12	0.30	0	5	22	7	2	w.	T. C. Nicholson.
Gainesville	Alachua	176	18	81.2	− 0.7	96	26†	68	7†	26	5.98	− 1.48	2.03	0	12	12	13	6	se.	John Schnabel.
Grasmere	Orange	175	14	81.2	− 0.9	99	27	66	2	27	4.53	.....	0.90	0	17	....	....	....	.....	J. B. Escott.
Hilliard	Nassau	69	3	81.0	.....	98	26	63	8	27	7.90	.....	2.50	0	8	17	7	7	.....	B. A. Tibbits.
Homestead	Dade	5	2	80.2	.....	96	24	68	8†	28	5.42	.....	1.20	0	18	9	22	0	e.	W. J. Krome.
Hypoluxo	Palm Beach	9	16	82.8	+ 1.4	98	25	68	30	28	3.26	− 2.23	1.00	0	13	17	13	1	e.	G. A. Angevine.
Inverness	Citrus	43	12	81.8	+ 1.4	94	22†	69	13	22	4.72	− 6.47	1.52	0	11	0	23	8	sw.	W. H. Miller.
Jacksonville	Duval	101	41	81.8	+ 0.9	98	26	71	13	19	6.74	+ 0.54	3.16	0	11	4	19	8	se.	U. S. Weather Bureau.
Jasper	Hamilton	152	11	81.4	+ 0.1	96	23†	67	12†	29	3.17	− 3.46	1.10	0	6	8	10	13	w.	Mrs. W. C. Caldwell.
Johnstown	Bradford	125	12	83.0	+ 1.7	98	20†	68	7	26	6.87	− 1.15	1.88	0	13	....	....	....	.....	A. M. C. Brasch.
Key West	Monroe	14	41	82.6	− 1.1	89	25	69	5	18	2.36	− 1.23	0.98	0	9	12	13	6	e.	U. S. Weather Bureau.
Kissimmee	Osceola	65	19	82.8	+ 0.8	98	23†	70	2†	25	4.74	− 2.62	1.97	0	11	2	27	2	sw.	J. A. Simpson.
Lake City	Columbia	210	27	81.4	+ 0.5	96	26	68	7	25	5.85	− 2.10	2.48	0	12	2	24	5	se.	W. B. Knight.
Live Oak	Suwanee	109	12	83.0	.....	100	27	68	7†	32	7.46	+ 1.80	4.50	0	8	10	5	16	.....	J. D. Henry.
Macclenny	Baker	125	15	81.0	− 0.8	97	28	65	8†	29	6.15	− 1.90	1.68	0	9	5	21	5	.....	Griffing Bros. Co.
Madison	Madison	200	12	82.0	+ 0.9	100	29	69	3†	26	4.15	− 4.25	0.86	0	15	16	4	11	se.	E. J. Vann.
Malabar	Brevard	24	18	83.0[e]	+ 1.5	101	25†	70	8†	24	6.09	+ 1.45	3.03	0	9	20	8	3	se.	J. F. Farley.
Marianna	Jackson	80	9	81.2[b]	+ 0.6	99	31	67	2†	27	10.25	+ 3.59	2.00	0	11	23	2	6	s.	W. J. Watson.
Merritts Island	Brevard	20	29	81.0	− 0.4	96	27	69	2	18	4.99	− 0.55	1.75	0	13	0	31	0	se.	F. Ulrich.
Miami	Dade	47	10	82.0	+ 0.1	94	25	72	6	20	5.99	− 1.25	1.80	0	16	3	15	13	se.	U. S. Weather Bureau.
Middleburg	Clay	10	11	81.3[e]	− 0.3	98	24†	63	16	29	4.45	− 3.03	1.63	0	9	....	....	....	.....	G. A. Chalker.
Molino	Escambia	49	10	77.6	− 2.3	97	25†	64	4	28	12.35	+ 4.94	5.10	0	7	14	2	15	.....	W. H. Trimmer.
Mount Pleasant	Gadsden	260	6	79.7	.....	99	16†	63	24†	32	5.24	.....	1.05	0	15	....	....	....	.....	Miss Addie Grubb.
New Smyrna	Volusia	9	27	79.2	− 0.6	92	26	67	2	20	1.26	− 4.23	0.39	0	6	....	....	....	.....	F. Nordman.
Observation Island	Palm Beach	.....	.....	83.3	.....	94	25†	71	5	15	3.31	.....	2.20	0	9	18	3	10	e.	F. K. Armstrong.
Ocala	Marion	98	22	80.8	− 0.6	98	27	68	4†	27	10.60	+ 2.28	2.30	0	12	10	17	4	sw.	J. C. Caldwell.
Orange City	Volusia	39	18	81.6	− 0.7	103	26	64	2	30	4.72	− 1.63	1.45	0	14	9	18	4	se.	J. D. Graham.
Orlando	Orange	111	19	82.3	+ 0.4	97	26†	68	2	22	7.48	+ 0.24	1.40	0	15	7	15	9	se.	James Thomson.
Pensacola	Escambia	149	32	80.4	− 1.0	97	26	69	2	18	6.26	− 1.01	1.65	0	13	7	13	11	s.	U. S. Weather Bureau.
Pinellas Park	Pinellas	20	1	82.4	.....	92	2†	72	4†	18	5.43	.....	1.60	0	10	16	15	0	s.	R. H. MaWhinney.
Plant City	Hillsboro	121	18	81.4	+ 0.4	95	28	69	8	21	3.97	− 4.65	0.92	0	8	16	14	1	.....	E. B. Trask.
Rockwell	Marion	10	10	82.7[d]	+ 0.9	95	11†	68	11	27	5.24	− 2.47	1.80	0	13	....	....	....	sw.	Dunellon Phosphate Co.
St. Andrew	Washington	14	15	82.4	+ 0.2	99	26	68	4	33	2.80	− 4.94	1.04	0	12	18	11	2	s.	W. A. Emmons.
St. Augustine	St. Johns	10	60	82.0	+ 1.2	101	26	67	2	26	1.33	− 4.18	0.65	0	5	....	....	....	e.	E. F. Joyce.
St. Leo	Pasco	140	15	81.3	− 0.2	97	28	69	6†	25	5.41	− 3.85	1.12	0	12	9	19	3	w.	G. Schneider.
Sand Key	Monroe	.....	.....	81.6	.....	89	11	73	9	10	1.14	.....	0.49	0	6	11	13	7	e.	U. S. Weather Bureau.
Satsuma Heights	Putnam	98	4	80.9	.....	97	27	67	2†	26	3.15	.....	0.97	0	15	10	19	2	.....	Satsuma Co.
Switzerland	St. Johns	10	19	80.5[d]	+ 0.2	97	26	68	6†	24	5.16	− 2.61	1.72	0	9	....	....	....	.....	Mrs. W. C. Steele.
Tallahassee	Leon	192	25	79.6	− 0.7	94	30	69	3†	19	8.85	+ 1.16	3.15	0	11	19	9	3	s.	W. H. Markham.
Tampa	Hillsboro	79	22	82.0	+ 2.0	94	28	70	5	20	6.86	− 1.57	1.40	0	17	10	15	6	ne.	U. S. Weather Bureau.
Tarpon Springs	Pinellas	20	27	82.2	+ 1.4	95	2	69	8	23	6.66	− 2.29	1.77	0	17	14	11	6	w.	A. P. Albaugh.
Titusville	Brevard	16	16	83.0	+ 2.2	102	26	69	2	24	3.23	− 4.22	1.07	0	20	6	21	4	e.	F. M. Taylor.
Alabama.																				
Alaga	Houston	105	7	.....	.....	.....	.....	.....	.....	.....	7.67	.....	4.62	0	10	....	....	....	.....	James L. Willis
Anniston	Calhoun	728	21	77.8	− 0.1	95	25	60	27	29	4.23	− 0.50	1.36	0	17	4	18	9	se.	U. S. Weather Bureau.
Ashville	St. Clair	685	19	77.8	− 0.5	97	24	57	3	30	3.09	− 1.90	0.65	0	12	12	15	4	s.	George R. Cather.
Auburn	Lee	732	30	80.0	+ 0.3	96	25†	66	1†	28	7.16	+ 1.60	2.80	0	10	6	10	15	se.	Dr. J. T. Anderson.
Benton	Lowndes	149	11	.....	.....	.....	.....	.....	.....	.....	6.23	+ 1.26	1.64	0	11	....	....	....	.....	S. T. Pruitt.
Bermuda	Conecuh	.....	25	80.0	0.0	97	31	65	....	29	7.12	+ 2.03	1.78	0	13	10	17	4	sw.	M. J. Morris.
Birmingham	Jefferson	701	24	78.6	− 1.2	95	25	64	27	23	5.65	+ 0.95	1.35	0	17	6	18	7	se.	U. S. Weather Bureau.
Calera	Shelby	500	11	.....	.....	.....	.....	.....	.....	.....	8.99	+ 3.80	2.45	0	12	....	....	....	.....	L. G. Privett.

TABLE 1.—*Climatological data for July, 1912. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Alabama—Continued.																				
Camp Hill	Tallapoosa	738	11	78.7	− 0.7	94	28†	64	27†	29	7.57	+ 2.24	2.67	0	10	9	12	19	w.	Dr. Lyman Ward.
Cedar Bluff	Cherokee	594	8								3.50		0.80	0	9					Joseph L. Daniel.
Citronelle	Mobile	331	24	80.7	− 0.8	98	31	68	1†	25	7.40	+ 1.21	1.70	0	15	11	11	9	sw.	Rev. W. H. Rowe.
Clanton	Chilton	590	19	79.7	0.0	95	25†	66	1†	28	5.05	+ 0.22	0.80	0	17					Joseph B. Downs.
Cochrane	Pickens	100	2								5.33		1.20	0	11					T. H. G. Cook.
Cordova	Walker	334	21	79.4	+ 0.3	99	26	60	28	32	3.60	− 1.62	0.96	0	9	17	0	14	nw.	Scott Maxwell.
Cullman	Cullman	802	4	78.4		95	25†	62	29	24	6.64		3.06	0	11	14	13	4	sw.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	7								6.64		2.68	0	8					Dr. W. B. Fulton.
Daphne	Baldwin		21	80.4	− 0.4	98	26	68	28	26	5.14	− 2.06	1.65	0	13	10	6	15	sw.	John H. Young.
Demopolis	Marengo		20								3.65	− 0.58	1.36	0	8	18	4	9	s.	George E. Pegram.
Eufaula	Barbour	200	28	78.6	− 1.9	95	25†	65	3†	27	2.87	− 3.51	1.08	0	13					Dr. J. B. Whitlock.
Flomaton	Escambia	91	20	82.5[1]	+ 1.6	100	29	69		26										T. J. Farris.
Fort Deposit	Lowndes	520	28	81.0	− 0.1	97	31	67	27	27	1.89	− 3.22	0.60	0	7					J. F. Hattemer.
Gadsden	Etowah	621	28	79.2	− 0.3	96	25	64	28	29	3.14	− 1.38	0.77	0	12					D. P. Goodhue.
Goodwater	Coosa	826	17	77.9	− 2.3	94	25†	63	27†	29	6.38	+ 1.01	2.25	0	13					Miss Daisy Bulce.
Greensboro	Hale	220	33	80.6	+ 0.3	93	25	68	28	22	7.08	+ 3.15	2.20	0	9					W. E. W. Yerby.
Greenville	Butler	444	11								6.02	+ 1.31	1.02	0	9					E. M. Lewis.
Hamilton	Marion		16	78.0	− 1.1	95	25	60	27†	29	5.13	+ 0.77	1.65	0	12	7	9	15	sw.	Prof. H. O. Sargent.
Healing Springs	Washington	362									2.29		0.56	0	15					James E. Lipscomb.
Highland Home	Crenshaw		20	80.2	+ 0.5	98	31	68	3†	27	2.24	− 3.20	1.20	0	8	10	16	5	s.	Prof. Samuel Jordan.
Livingston	Sumter	160	28	81.0	− 0.3	94	14†	67	1†	22	3.04	− 1.43	0.89	0	7					Robert L. King.
Lock No. 4	Talladega	510	15	79.6	− 0.4	96	14	64	1	27	5.67	+ 0.65	1.08	0	11	19	9	13	sw.	U. S. Engineers.
Maple Grove	Cherokee		19	79.2	0.0	99	23	60	26	31	6.06	+ 1.15	1.20	0	12	10	17	4	ne.	Mrs. A. L. Awbrey.
Mentone	De Kalb	1,595	5								7.66		2.30	0	12					E. Mason.
Milstead	Macon		9								4.05		1.50	0	13					W. U. Hall.
Mobile	Mobile	84	40	81.3	− 0.8	98	26	70	6	24	6.79	− 0.25	1.35	0	13	11	11	9	s.	U. S. Weather Bureau.
Montgomery	Montgomery	240	40	80.6	− 0.4	95	29	67	27	24	5.65	+ 0.97	1.58	0	13	12	10	9	se.	Do.
Newbern	Hale		20	81.5	− 0.2	98	30	65	1†	32	2.85	− 1.54	0.56	0	14	5	22	4	s.	Dr. J. Huggins.
Oneonta	Blount	857	18	77.4	− 0.3	94	25	61	28	30	8.76	+ 2.63	3.30	0	19	6	1	24	s.	Aquilla J. Ketcham.
Opelika	Lee	917	33	77.9	− 2.4	95	29†	66	1†	23	4.43	− 0.61	1.47	0	10					A. H. Read, jr.
Ozark	Dale	400	10	81.2		99	27	65	6	28	4.40		1.00	0	12					Miss Lucy Sellers.
Prattville	Autauga	281	12	79.4	− 0.9	94	25†	64	27	28	2.91		1.18	0	7	11	19	1		Joseph B. Bell.
Pushmataha	Choctaw		21	79.6	− 1.3	92	29†	66	1	23	8.46	+ 3.50	1.56	0	13	5	7	19	s.	W. N. Horn.
Robertsdale	Baldwin	148									5.94		0.92	0	19					Carl Boseck.
Selma	Dallas	147	32	82.6	+ 1.1	102	28	67	27†	35	5.67	+ 0.98	1.23	0	13					Charles F. Brislin.
Spring Hill	Mobile	312	8	80.8		99	27†	68		28	7.72		1.27	0	17	13	0	18	sw.	Spring Hill College.
Talladega	Talladega	554	22	79.2	− 1.1	96	25	64	27	30	4.93	+ 0.29	1.65	0	12	10	17	4	se.	W. E. Henkel.
Tallasee	Elmore		21								5.98	+ 1.42	2.71	0	13					P. A. Noble.
Thomasville	Clarke	385	21	80.0	− 1.2	96	28†	64	1	28	5.62	+ 0.45	1.50	0	12					Miss H. T. Forster.
Troy	Pike	581	4	81.2		99	28	68	2	26	2.57		0.91	0	11	3	27	1	s.	Frank L. Zimmermann.
Tuscaloosa	Tuscaloosa	230	31	81.4	+ 0.2	98	25	65	27†	29	2.94	− 1.54	0.59	0	15	16	0	15	s.	W. S. Wyman, jr.
Tuskegee	Macon		12	80.9	− 0.7	99	28	66	1†	30	6.23	+ 1.72	1.85	0	7	0	30	1	s.	Prof. Geo. W. Carver.
Union Springs	Bullock	216	25	80.4	− 0.8	96	29	68	27†	26	3.47	− 1.93	1.04	0	11					P. L. Cowan.
Uniontown	Perry	273	26	81.5	+ 0.6	96	25	68	1†	25	5.03	− 0.12	1.50	0	9	9	13	9	se.	L. H. Moore.
Valley Head	Dekalb	1,031	27	77.8	+ 0.7	95	25	59	28	35	5.01	− 0.21	1.02	0	11	13	14	4		M. T. Floyd, M. D.
Wetumpka	Elmore	205	20	81.9	+ 0.2	99	25†	65	27	31	1.83	− 3.39	0.86	0	5	21	0	10	e.	U. S. Engineers.
Mississippi.																				
Aberdeen	Monroe	210	24	79.9	− 0.7	97	25	64	27	27	6.04	+ 1.42	2.00	0	11	14	4	13	s.	L. D. Godfrey, jr.
Agricultural College	Oktibbeha	424	22	80.2*	− 0.9	95	14†	64	27†	27	6.97	+ 2.34	2.60	0	17	9	12	10	s.	J. R. Ricks.
Bay Springs	Jasper					96	30†				1.69		1.50	0	6					J. J. Johnston.
Bay St. Louis	Hancock	28	19	81.3	− 0.1	99	26	69	28	23	7.53	+ 0.65	3.43	0	16	11	12	8	sw.	Brother Stanislaus.
Biloxi	Harrison	24	21	82.2	+ 0.3	99	26	71	1†	23	7.66	+ 1.21	3.72	0	12	11	10	10	se.	Miss M. Josie Pope.
Booneville	Prentiss	504	18	79.6	− 0.2	96	25	64	27†	25	4.50	− 0.10	1.83	0	11	3	26	2	s.	Dr. D. T. Price.
Brookhaven	Lincoln	500	24	81.2	− 0.4	98	26	66	28	28	2.34	− 3.15	1.21	0	13	11	5	15	e.	W. J. Bee.
Columbia	Marion	110	8								5.37		0.98	0	16	16	1	14	nw.	N. R. Drummond.
Columbus	Lowndes	191	24	81.3	− 0.9	98	25	64	27	30	5.67	+ 0.91	2.10	0	9	17	4	10	nw.	J. B. Love.
Crystal Springs	Copiah	468	20	80.4	− 0.6	95	30	65	28	26	5.16	− 0.77	1.30	0	12	11	19	1		D. H. Miller.
Edinburg	Leake		4	80.6		97	22	68	1†	27	4.87		2.08	0	14	9	9	13	s.	J. Y. Blocker.
Enterprise	Clarke	248	7								9.66		3.08	0	16					J. B. Thompson.
Fulton	Itawamba		3								3.25		0.82	0	10	10	5	16	s.	A. L. Summers.
Hazlehurst	Copiah	460	22	80.2	− 0.7	95	30	65	28	27	5.51	+ 0.74	1.51	0	16	8	8	15	sw.	J. D. Granberry.
Hickory	Newton	326	2								7.50		3.00	0	15	13	1	17	s.	T. N. McMullen.
Jackson	Hinds	280	25	81.4	+ 0.1	97	30	66	28	28	7.52	+ 3.11	2.71	0	15	13	10	8	se.	A. S. Nall.
Lake	Scott	446	24	79.6	− 0.3	95	30	64	28	28	11.10	+ 5.97	3.40	0	16	11	2	18	se.	Mrs. Eddie McNeel.
Laurel	Jones	241	8	80.8		97	30	65	28	31	5.67		1.05	0	15	22	7	2	sw.	Thomas W. Flynt.
Leakesville	Greene		18	80.8	− 0.5	98	26	67	29	29	4.52	− 2.91	1.40	0	13					Dr. Samuel Pool.
Louisville	Winston	561	23	79.8	+ 0.3	94	30	65	27	26	5.21	+ 0.34	1.37	0	10					B. T. Webster.
McNeill	Pearl River	230	9	80.4		98	30	67	6†	26	6.84		1.95	0	15	7	21	3	se.	Prof. E. B. Ferris.
Macon	Noxubee	185	24	80.6	− 1.0	96	25	66	27†	28	4.09	− 1.03	2.00	0	9	19	4	8	e.	Finis E. Carleton.
Magnolia	Pike	415	16	80.2	− 1.1	97	30	65	13	27	6.48	− 1.10	2.81	0	19	6	21	4	se.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	22	79.4	− 0.6	93	30	67	28	26	7.76	+ 3.26	2.55	0	17	3	15	13	s.	U. S. Weather Bureau.
Merrill	George	76	7								7.14		2.34	0	14	18	3	10	n.	Otto C. Tompkins.
Monticello	Lawrence	209	5	81.0		98	26	64	28	29	8.03		3.18	0	19	8	13	10	w.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	24	81.6	− 0.6	101	25	65	1†	28	7.13	+ 3.19	2.00	0	11	14	7	10	s.	E. J. Henson.
Pascagoula	Jackson	15	3	80.4		96	26	70	6	19	5.12		1.72	0	10					McVey Young.
Pearlington	Hancock	10	24	80.1	− 0.8	98	30	67	28	28	9.37	+ 2.55	2.53	0	12	9	11	11	w.	Miss Annette Koch.
Porterville	Kemper		7	80.9		97	31	64	1	30	5.62		2.48	0	7	8	19	4	se.	I. S. Rea.
Shubuta	Clarke	197	7								5.55		1.09	0	16					George A. Floyd.
Tupelo	Lee	278	13								1.80	− 2.90	0.81	0	6	17	5	9	s.	W. S. Vincent.
Waynesboro	Wayne	191	25	80.9	0.0	96	25†	66	28	30	5.56	+ 0.55	2.40	0	10	9	5	17	s.	R. S. Burke.

[1], [2], [3], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 2, South Atlantic and east Gulf States.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Virginia.																																	
Arvonia	James.									.08	.01	.01				.09			1.10	.09		.06			.38	.07				T.		T.	1.89
Ashland	do.									.08	.12	.55			.09	.22				.34		.44	.24		.14	.07							2.29
Buchanan‖	do.	.10	.14				.06					.29								40						.36			.06				1.41
Callaville	Chowan.									.70	T.	.48				T.				.55					.98	T.				T.			2.71
Cape Henry	Coast.															.15				.23					.02					.02	.01	.79	1.22
Catawba	Roanoke.					.60					.50	.45			.72				.25							.85							3.37
Charlottesville	James.	.02			.07							.03			T.				.70	.03		.03			.30	.34	.02			T.		.02	1.56
Clarksville‖	Roanoke.	1.86									.20															.05				.48		2.94
Columbia	James.										T.	T.		.03					1.02			T.			.65						.08	1.78
Danville‖	Roanoke.	.64	T.							T.		.44	T.					.20		.84		T.		T.		.25							2.37
Diamond Springs	Coast.									T.						.32				.65						.02					.10	.93	2.02
Dry Bridge	James.										.25	.15		.53		.16			.75				.05		.97	.10						.10	3.06
Hot Springs	do.	.02			.17	.22				.02		.05	.62	.01	.50				.30			.22			.45	.20				.06			2.84
Ivor	Chowan.									.25	T.									2.80					.25	.06					1.20		4.65
Lassiter	James.																			.10	.50		1.20		.90						.40		3.10
Lexington	do.				.03	.45				.65	1.01	.41				1.45				.25			.23		1.02	.15							5.65
Lynchburg	do.	.12			.78					.54	.11					.26		.12	.79	.03					.71	.06						.12	3.64
Newport News	Coast.									.20						T.		T.		2.13		.03	.02		.08	.02					.03	.25	2.76
Norfolk	do.								.16	.01			T.	T.		.02				.67					T.	T.				.25	.29	.46	1.86
Randolph‖	Roanoke.	2.60							.40										.71							.58					.18		4.47
Richmond	James.									.39	.05	.06			.04	.04			.39			.16			.12					T.	T.	T.	1.25
Roanoke	Roanoke.	.30			.45	1.07		.60	.02	T.	.22	.08	.05					T.	.65	.20	T.				.43						T.	.03	4.10
Rocky Mount	do.	.85			.35	.15							.18	.80				.50		.57							.45						3.85
Ruckersville	James.												.05	.03		.53			.93			.43	.07		1.36	.22				.18		.02	3.82
Spottsville (near)	Chowan.									.08	.08	.10							.36	.05		.23			.21					.10		.08	1.29
North Carolina.																																	
Albemarle	Pedee	.23					.15	.11	T.	1.05	.37	.14	.20			.06	.38	.05	.44	.19	1.71												5.08
Belhaven	Pungo								.30											1.40	.20	.30	.50			T.								2.70
Brewers	Pedee	.21	T.	.42	.65	1.96				.83		.05		.98	.28	.01	.11	.07	T.	.72	.25		T.			.11				T.	.60	.03	7.28
Caroleen	Santee	.40	.52			.21	.78				.01	.02	T.			.08	.29	.91	.08	.01	.70					T.						T.	4.01
Chalybeate Springs	Cape Fear	.19	T.	.45			T.	.40	.10	.95	T.	.15				T.	.11				.60				.04								2.99
Chapel Hill	do.	.12		T.			.10			.09		T.	.12	.04			T.	T.	T.	T.						.10							0.57
Charlotte	Santee	.51		.39	.01	T.	.12	.06	T.	.03	.34	.28	.01	.01	.04	T.	.53	.17	.09	.03	.84	T.	.01			T.					.09		3.56
Chimney Rock	do.	.73	.93		.25	3.06	.44		.40	.58	1.54	.18		.80	.84		.87				.30					.05					.23	11.20	
Durham (near)	Neuse.	.29		1.08						.39		1.24														.38							3.38
Eagletown	Chowan.		.24						.65	T.		.38	T.	T.					1.10	T.	.03	.31		T.	1.12					.10	T.	3.93
Edenton	Coast.								.10	.05			2.30													2.00							4.45
Elizabeth City	Pasquotank.																			.70				.45						.70		1.85
Elizabethtown‖	Cape Fear.				.70					.56													.44							.50			2.20
Enfield (near)‖	Tar.	.15								.16			.54									.30			1.45					.15		2.75
Fayetteville‖	Cape Fear.	.10		.45					.04	.36	.02	.49	.70	.41				.17	.83		1.35	.33											5.25
Globe (near)	Santee.	1.59	.10	.30	.22	2.34		.31		.65	.38	1.15	.22			.20		.14		1.65	.22				.31					.31			10.09
Goldsboro‖	Neuse.	.92	T.						.12	1.21				.07	.08	T.	T.	T.	.04	T.	.80	.73					.20						4.17
Gorge (near)	Santee.	.56	.21		1.21	1.87	.12	.06		.10	1.52	2.18	.45		.25	.40	.47	.07	.79	.64	.18				.12					.05	.22	11.47	
Graham‖	Cape Fear.	1.25	.04	.10					.02	.05	.03		.21					.07		.27	T.	.05											2.09
Greensboro‖	do.	.11	.12						.89	.03	.04			.27						.18	.45	.15		.01									2.25
Greenville‖	Tar.	.82								1.41	T.	.11	.02			.04	.06				39	.33					.52	.06					3.76
Hatteras	Coast.	.23			T.				.05	T.		T.	.01							.59	.20			.05	.13	.23							1.55
Henderson	Tar & R'n'k	T.		.22					.20	.25	.31	.21								.45			T.		.21					.05			1.90
Kinston	Neuse.	.46					.38	.16	.45	.16		.20	.89	.04				.04		.03	.94							1.21					4.96
Lenoir	Santee.		.87				1.46			.22	.37	.46	.15	.28	.13		.02			.56	.30											.35	5.17
Lincolnton	do.	.91	.35			1.02		.15		.65	.04	.25		.05			.10	1.32		.09		.42		.57							.02	.38	6.32
Louisburg‖	Tar.	1.80								.15	.12		.65								.10	.17			T.								2.99
Lumberton‖	Lumber.	.04		T.				T.	.28	.12		.52	.31	T.		.29		.23	.11	.02	.38	T.		.05									2.35
Manteo	Coast.								.02				1.64							.10						.40					.18			2.34
Marion	Santee.	1.00	.46		.07	.39	.22	.09		1.35	.03	.11	.03		1.12	.03	.18	.34	.05	.13			T.			.39						.31		6.30
Middletown	Coast.	.02							.18					T.					.38	2.87				.35							.12		3.92
Moncure‖	Cape Fear.	.02		.43	.22	.04			.45	.16			.10					.05				.45											1.92
Monroe	Pedee.			.21			T.	.32		T.	.71	.54					.77	.43			1.27												4.25
Morganton	Santee.	.52	.16		.16	1.46				.20	.02	T.		2.16	.31	T.	.05	.40	.45	.14	.20					.07					.02		6.32
Mount Airy	Pedee.	.16	.06		.51	1.60				.75	.11	.11	1.33			.23	.12	.18	.50							.27				.40			6.33
Mount Holly‖	Santee.		2.52									.98	.72					.35	1.03	.50		.50				.06							6.66
Nashville‖	Tar.	.93		T.				T.		.85	.14		.09					T.			.09	.11					.32						2.53
Neuse ‖	Neuse.	.20							.50	.21	.06	.05									.18												1.20
Newbern ‖	do.	.81						.47		.68	.05	.17	.83	.60			.10		T.	T.	.73	.06					.08	.57				.55	5.70
N. Wilkesboro(near)	Pedee.				1.51	.20	.69			1.53		.90		.85	.20						.85	.40									1.30		8.43
Parkersburg	Cape Fear.	.05		.15			T.	T.	.40	.20	.30	.10	T.	T.	T.	T.	.35	.15	T.	.05	.35												2.10
Pinehurst	Lumber.	.42							.20	.26	1.10		.12			.18	.21				2.03												4.52
Pittsboro	Cape Fear.		.01		.01			.07	.33			.01								.30	.50												1.23
Raleigh	Neuse.		T.		T.		T.	.02	T.	.37	T.	.07	.01				.03			.67	.05			.03	.03					T.			1.28
Ramseur	Cape Fear.	.08		.05					.25	.21			.09						.55	.27	.17	.86		T.									2.53
Randleman ‖	do.									.46	.18		2.00	.18																			2.82
Reidsville ‖	do.	.68			.04				.48	.13										.27	.10	T.	.07			.25							2.02
Rock House	Savannah	1.59		3.19	.10	.71	.35	.02	.67	.53	2.38	.05	.51		.29	.10	.85	1.30	1.63	.41	.41			T.	T.	T.						.92	16.01	
Rocky Mount ‖	Tar.	.20								.30	.35														.10		.98						1.93
Salisbury ‖	Pedee.			.30							.10		.15		.90	.44	.40	.20	.15	.45	1.02			.52							.30		5.33
Saxon‖	Roanoke.	.39	.12		.15	.03		.05			1.05							.05	.35	.45		.44								.05			3.13
Scotland Neck	Tar.	.10							.38			.06	.02	.20						.57						.61	.21				.03		2.18
Settle	Pedee.	.41			.82			T.		.15	.13	.11		.42	T.	T.	.36	T.	T.	T.	.28				T.					T.		T.	2.68
Sloan	Cape Fear.						.20		.32		.10	1.25	.06			.07		.08		.49	.48					.22							3.27
Smithfield‖	Neuse.	.25							.10	1.20	.10	.35	.32						.15		.52	.19					.14						3.32
Snow Hill	do.	.80					.10				.34	.29	.02		.24	.07	.03			.20	.78	.14				1.12							4.13
Southern Pines	Cape Fear.	.35							.05	.90	.05	.25		.05							1.70			.75									4.10
Southport	do.	.15							.35	.18	T.		T.		.12	.04					1.30												2.14
Statesville	Pedee.	.91	.27			2.20				.21		.84	.14					.28		.20	2.59										.12		7.76
Tarboro‖	Tar.	.38	.04							.40		.05		.05		.27	.14	.06			.07				2.25	.27				.09			4.07
Tryon (near)	Santee.		.87		.32	5.30		.08	.04		2.20	.20	.30		.02	.12	.31	1.17	.11	.20	.30												11.54
Weldon‖	Roanoke.	.11	.04		T.					T.		.03	.09	.19				.26		.23	.50			1.00		.34	.20						2.99
Willard	Cape Fear.																																
Wilmington	do.	.07				T.	.16	.01	.83	.09	.27	.27	.10	1.62	.10	T.	.20	.55		.22	.05			.35									4.10
South Carolina.												T.	.13	T.	T.	.13		T.	.03	1.17	.56												2.81
Aiken	Edisto.										.52	.02	.08			.04		.70			.10												1.46
Allendale‖	Savannah.			1.00						.23		1.30	.26	.61			.21				.50												4.11
Anderson	do.	.03	.02	.06		2.50				.10	.07						.15	.91			.19	1.66											.53	6.22
Batesburg‖	Edisto.			.83					.53		.64	.80	.06					.53	.15															3.54
Blackville‖	do.			.45	.15	T.	.05		.46		.03	1.57	1.67			.06	.26	.18	.28								.09				.20			5.45
Blairs	Broad.		.67			.71			.67		.07	.06	.04				.02	.50	.08	.30														3.12
Bowman	Edisto.		2.03	1.02	.11			T.	.55	.15	.51	.13			.18	.14	.26	.52	.23					.03										5.86

TABLE 2.—*Daily precipitation for July, 1912. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
South Carolina—Continued.																																	
Broxton‖	Saikehatchie			1.98						1.10		.36	1.10	.31				1.24	.94	.92													7.95
Calhoun Falls‖	Savannah	.02					.19			.20		2.98		.41			.20	1.93	.73	.10												.12	6.88
Camden‖	Wateree		.98		.23				1.00			.15	.08	.10		.02		.44	.87													3.87
Catawba	Catawba		.77	.10	.02		.38	.24		.04	.35	.51	.27	.12				.77	.09	.04	.07	.81		1.50									6.08
Chappells‖	Saluda			.42	.26	.90	.20			.21	.81	.40		.20	T.			1.10		1.40													5.90
Charleston	Coast	.44	.14					1.34	.54	.05	.01	.06	.06	T.	.16	.16	.03	T.		.06				T.	T.								3.05
Cheraw‖	Pedee		.04	2.33	.02			.10	.73	.14		.35	.60	.01			.20	.66	.01		.03	.05		.30								5.57
Clemson College	Savannah		.45	.42		1.02			.08	.10		.31					1.00	.70	.30		.11											.07	4.56
Columbia	Congaree	1.09		.03		.05	T.	T.	T.	T.	1.34	T.	.40		.04	.01	.75	.09		.01												.21	4.02
Conway‖	Waccamaw		.76					.20	.52		.30	.10	.10	.55	.20	.22	.20	.28	.65	.10	T.	T.	T.										4.18
Dillon	Little Pedee		.28		T.		.40	.27	1.11	.01	.50	.07	T.	T.	.38	.04	.33	.57	.50	.23				T.	.42					.09			5.20
Edisto‖	Edisto			.92					.79			.13	.38	.20				.45	.97	.44				.05		.16							4.49
Effingham‖	Lynches		.25	.25				.25		.96	.20	.90	.25				.20	.25	.94	T.		.97											5.42
Ferguson‖	Santee		.15			T.		.05		.95			.05	.03	.07		.03	.45	.15						.15	.20					.22		2.50
Florence‖	Pedee		1.30					.01	.02	1.09		.14	1.03	.39	.03	.04	.07	.49	.36		.09												5.06
Georgetown	Coast	.03						.03	.75	.54	.45	T.	1.02		.05	.03	.02								T.					.15	T.		3.07
Greenville‖	Saluda		.14		.15	.13	2.10				.08	.07		T.	T.	.01	T.	.94	.30	.10	.46	.35		.04		.02							4.89
Greenwood‖	do		.20	.81							10	1.12		2.18				1.08	.10	1.70													7.29
Heath Springs	Wateree	.60		.58			.60	.88	.55	.12			.06			.47	.81	.04	.07	.05	2.00		T.										6.83
Kingstree‖	Black								.59	1.19			.06	.60	.78	.70	.20	.99	.07	.50											.23		5.91
Liberty	Savannah	.62		.20	1.96	2.02	T.	.05		.02	.35	.20	T.		.02	.80	.50	.02	.20	.15	.50	.30	.30		T.							.45	8.86
Little Mountain	Saluda	.82	.10	.56				1.40		.98	.30	.21		.41			.60	.18		.50													6.06
Monetta	Edisto		.35	.61	.03			.23	.02	.75	.87		.02	.01		T.	.76	.09															3.74
Newberry	Saluda			1.04	.30			.06			.23	.04		.10			.30	.34	.07	.58												.15	3.21
Pelzer‖	do						1.90				.44							1.20	.26		.36	1.44											5.60
Pinopolis	Cooper	.47	.16	.16				.47		1.35		.16	1.25	1.80	.80	1.02	.35		.12					2.10	.09					.17			10.47
St. George‖	Edisto		.90		.46	.06			.08	.60		.33	1.80	.75	.43		.55	.80	.05	.30					.33	.38							7.82
St. Matthews‖	Santee		.80	.15	.59				.02	.23		.70	.15	.12			.13	.54	.40							.58							4.43
Saluda	Saluda	.30	.20	.80						1.28	.32	.25	.40				.93	.09	.40														4.97
Santuc	Broad	.35		.12	1.25	.02	T.	.04		.08	.49	T.	.04		.03	.40	.60	T.			.68					T.						.81	4.70
Smiths Mills‖	Pedee		.30						.08	.41		T.	.14	.23		.16	.08		.21													1.61
Society Hill	do	1.01	.08					.70	.58		1.28	.03	.05		T.	.13	.25			.86												.09	5.06
Spartanburg‖	Broad		.28					.08			.40	.07	T.				.06	.10	.23		.27	1.47											2.96
Summerville	Ashley		.23	.02	.23			.05	.44		T.	.30	.77	.21	T.	.28	.37	.06	.06					.81									3.83
Trenton	Edisto		.46				.36	.55		.62	1.54	.22					.67	.20															4.62
Walterboro	Ashepoo		1.52		1.48			.12	.72	.03		.38	.81	.10	.10	.55	.93	.03						.50									7.27
Winnsboro	Broad	1.20	.35	.40		.60	T.	.75		.87	.90		.40	.20	.45	1.40	.27	.30														.20	8.29
Winthrop College	Catawba	.95		.35		.30	.15	.25		.05	1.30	.45	.20		.65	.20	.80	.15	.15	.25	.60												6.80
Yemassee‖	Combahee		T.	.03	.09	.07			.52		.01	.90	.65	.04		.37	.52	.33	T.						.80	.12	.76						5.21
Georgia.																																	
Abbeville‖	Ocmulgee			.23	.62				.15		.07	1.58	.23	.24	T.	.05	2.81	.19	.13							.17							6.47
Adairsville	Coosa	.40	1.05		.65	T.	.40		.40	1.35	T.	.23			T.		T.	.55	.10	.10	T.											T.	5.23
Albany‖	Flint	1.43		T.	.02			.06	.02			.06				.55	.30	2.17	.26	.09													4.96
Allapaha‖	Allapaha	.67	.05	.08		.30		.01		.13	.05	.59	.87	1.26	.02		.41	.02	.55														5.01
Americus‖	Flint	.10	.30		.10	.20						.60				.40	.30	1.20	.70														3.90
Athens‖	Oconee		.03	.20			.33			.08	.39	1.91	.37	.45	.14		.15	.38	.27	.03	.77				.78								6.28
Atlanta	Chat'ho'chee	.46	.43			.65	T.		.78	.19	.44	.29	.15	.03	.01	.01	.49	.02	.03	.01				T.	.01	.06					.60		4.66
Augusta	Savannah	.70	.08	.01		.08		.93	.01	.01	.14	.69	.02				10	2.64	.16															5.57
Bainbridge‖	Flint		.30	.11	.33	.07	.41	.45			.45	.30	T.		.55	.10	.27	1.05	.26	.70		T.	T.											5.35
Barnesville	do	.06	.31						.01	.39	.14	.07	1.25			.35	.33	1.90	.05															4.86
Butler‖	do								.52	.20		.80		.47			.17	1.23	.69						.45								4.53
Camak‖	Savannah		.30		.40	.41	T.						3.00	.90	.30		.39	.70	.04	.60													7.04
Canton‖	Coosa	T.	T.	.53		T.	T.			.18	2.92	.65	.20		.78	.60	T.	.13	.24	.25	.30												6.78
Carlton‖	Savannah		.23			.07	.45				.20	.27	.47	.23		.57	.10	.36	.45														3.40
Clayton	do	.50	T.		1.10				.25	1.72	4.31	T.			.12	.26	1.00	.46		2.30	.70		.20	.06								.50	13.48
Columbus‖	Chat'ho'chee	T.	.22	.39	.44	.11				.27	.48		T.	T.	.55	T.	.13	.45	.01	.51		T.					1.43				T.		4.99
Concord	Flint		.70	.05					.17	1.15		1.00	.75	.15		.20	.60	.25	.60						.04	.50						.05	6.21
Covington‖	Ocmulgee	.50		.75	.10	.95				.20	.20	.35	1.05	.95				.50	.40	.25					.20								6.40
Dahlonega	Chat'ho'chee	.23			.59	.10	.14	.02	.01	.54	.11	.86	.01		.81		.16	1.09	.18	.42	.52	.11			T.							.24	6.14
Diamond	Tennessee	.22	.30	.18	.02	.19	.32		T.	.04	.04	1.30		.70	.91	T.	.20	.52	.60	.51	.38	.09	.01		.03							.69	7.25
Dublin‖	Oconee		.52						.96		.10	1.14	.23	1.05		.43	.42	.10	.35	.08						.16							5.54
Eastman‖	Ocmulgee		T.	.24	.29				.91		.05	.54	.41	.46	.06	.31	3.04	.25	T.	.09						.07							6.72
Eatonton	Oconee	.20		.65						.15	.03		1.94		.20		.26	.25		.11													3.79
Elberton	Savannah			.83		.45		T.				.95	.15		.05	T.	.55	.85	.05	.55												.20	4.63
Experiment	Ocmulgee	.30	.20	.06	.01	.10			.20	.18			.95	.40		.10	.76	1.86	.30							.28						T.	5.70
Fort Gaines‖	Chat'ho'chee	.60	.25	.50	.45	.40				.35	2.00					1.52	.50	.35	T.	.35			.24								T.		7.51
Gainesville‖	do			1.46		.15	.10			.15	3.40	.30	.22	.88			.10	.25	.84	.34	.60												8.79
Glennville‖	Altamaha	.10	T.	1.52			T.		T.	.36	T.	.17	1.43	2.57	T.	.09	2.81	1.20	.39	.04		.03	T.			.23	.89						11.83
Gore	Coosa	.14	1.29	.01		.68	.12			T.	.04	1.63	.03		.04		.23	.13	.95	1.99					.28	.15						.18	7.89
Granite Hill	Ogeechee	.10			.16	.25				.03	.85		2.06		1.41	.07	.47	.42	.09	T.													5.91
Greensboro‖	Oconee	T.	T.	.47	.26		.49				.32	.07	1.70	.05		.92	.12	.12		.40													4.92
Griffin‖	Ocmulgee		.12	.09						.26	.55	.16	.19	.82	.21		.08	2.80	.64	.11						.20							6.23
Harrison	Ogeechee	.23								1.27			.21	.08			.31	.40	.12														2.62
Hawkinsville‖	Ocmulgee		.01	1.15	.72	.45	.10		.35		.04	.30		.37			1.40	1.22	.05							.46							6.62
Lisbon	Savannah			.08	.03	.26	.52			.06	.64	.12	.28			.14	1.88	.20		.02												.09	4.32
Lost Mountain	Chattahoochee.	.57	1.05						.45	1.50	.35		2.40	.63	.15			.69	.68	.04						.31						.37	9.19
Louisville	Ogeechee		.41	.45						.35	.79		.58			.18	1.34								.08								4.18
Lumber City ‖	Ocmulgee		.66	.56	.24				.05			1.70	.07				2.60	.25	.35							.17							6.65
Macon	do	.36	.01	.12		.33		.42			.96	.57	.50	1.34	.01	.03	1.18	.08								.18							6.09
Marshallville ‖	Flint	T.	.36	.07	T.	.25					.42	.53	T.	1.12	.50	.19	1.27	.24	.59	.61						.15	.07						6.37
Milledgeville ‖	Oconee		.45	.02	T.				.13		.09	.08	.34	.90		.18	.11	.25	.03														2.58
Millen ‖	Ogeechee		.30	.22							1.55	.22	.30	.25		.25	.75	1.41	.20														5.45
Montezuma ‖	Flint		.90	.03	.35	T.						.11		1.08	.22	.05	.53	1.58	.45	.21							T.						5.51
Monticello ‖	Ocmulgee		.38	.49	.01		.16						1.20	.56			.37	.17	.27								.02						3.63
Newnan ‖	Chattahoochee.	.07	.08	.03			T.			.40	.44			.22	.27			.43	.04	.46						.05	.18						2.67
Norcross ‖	do	.10	.76	2.60		.74	2.56				.22	.26	.04				.16	.06	.16	.10			.16										7.92
Point Peter	Savannah					.14						.54	.20		.09	.08		1.08		.54												.30	2.97
Poulan	Suwanee		.28	.08				.06		.15	.32			.03	.40	.28	.93	.03	.02			.12								.37			3.07
Putnam	Flint	.40	.10								.20		.11	2.32	.12	.11	1.00	.70															5.06
Quitman ‖	Suwanee				.11						.22	.55	.08	.11		.60	.22	.21					T.										2.10
Ramhurst	Coosa	.20	.10			.78					.03	.19		.63		.12		.08	.41	.97				.17	.08							.35	4.11
Resaca ‖	do	.42	.06		2.40	T.				.42		.25	1.24				.07		1.33	.66	T.				.65	.16						.33	7.99
Rome ‖	do	.41	1.22	1.32			.20			.05	T.	.32	.10	T.	.08			.63	.32	.11	.05						.13						4.94
St. George ‖	St. Marys				.57		.23		T.			1.45	.54	.07		2.15	.80	1.15	.30	T.								T.					7.26
St. Marys	do			T.	.19				T.	.05		.38		.06		7.00		T.												T.		7.68
Savannah	Savannah		.04	T.	.01	T.		.12	T.		.39	.67	.96	.01	.01	.50	.58	.10	T.						1.48							4.87
Statesboro	Ogeechee	.45	.90	T.	.05	T.		T.		T.	2.15	1.40	.01	.05	T.	.16	.91	.16	.04						T.							6.28

TABLE 2.—*Daily precipitation for July, 1912. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Georgia—Continued.																																	
Talbotton	Chattahoochee.	.31	.04	....	.35	....	....	....	.15	.53	.35	....	.25	.18	....	.31	1.10	.30	.23	....	....	....	....	.03	.08	....	....	....	....	....	....	....	4.21
Tallapoosa ||	Tallapoosa	.20	.40	.30	....	.20	.15	....	.20	.50	.05	.40	1.10	.20	....	....	....	.60	.30	.10	....	....	....	....	....	.38	....	....	....	....	....	....	5.08
Thomasville	Ocklocknee	.01	.13	T.	.76	.41	.26	.11	T.	1.57	.58	.02	....	.41	.12	.06	.45	.36	....	T.	T.	.09	....	....	....	....	....	....	....	....	....	....	5.34
Toccoa ||	Savannah	....	....	.39	.43	.15	.33	....	.05	....	.93	.08	....	....	....	1.23	....	.80	.84	1.10	.33	.31	....	....	.10	....	....	....	....	....	....	....	7.07
Valdosta ||	Suwanee	....	....	....	1.15	.40	....	.30	1.00	....	....	3.00	T.	....	....	T.	1.00	....	T.	....	....	T.	....	....	....	....	....	....	....	....	....	....	6.85
Valona	Coast	....	....	....	.30	....	....	1.00	....	....	....	1.00	....	....	....	4.25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6.55
Washington ||	Savannah	....	.11	T.	....	....	....	....	....	....	1.13	.08	2.38	....	....	.21	.51	.92	.38	....	....	....	....	....	....	....	....	....	....	....	....	....	5.72
Waycross ||	Satilla	....	....	.98	....	.16	....	....	.02	....	....	.11	....	1.25	.46	....	1.93	....	.65	....	....	....	....	....	....	....	....	....	.13	....	....	....	5.69
Waynesboro ||	Savannah	....	T.	.50	....	....	....	.50	....	.40	.40	.20	T.	.05	....	1.50	1.40	T.	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	4.95
West Point ||	Chattahoochee.	.07	.04	.48	....	.01	.72	.03	....	.14	1.63	.01	.17	.17	.50	.38	T.	.80	.03	.66	....	....	....	....	....	....	.64	....	....	....	....	....	6.48
Woodbury ||	Flint	....	.10	.04	.03	.36	.03	....	....	.84	1.12	.05	.25	.15	.24	....	.11	.50	.36	.07	....	....	....	....	....	....	.13	....	....	....	....	....	4.38
Florida.																																	
Apalachicola	Coast	....	....	.14	....	....	.64	....	....	....	....	.03	....	....	....	.57	.62	5.20	....	....	....	....	....	T.	....	....	....	....	.10	....	....	....	7.30
Arcadia	Peace Creek	....	....	....	....	T.	.10	.83	.18	.31	.17	T.	.03	.10	.55	.05	.28	.09	.09	.32	.21	....	....	....	....	....	....	....	....	....	....	....	3.31
Avon Park	Kissimmee	....	....	....	.24	....	.10	.33	.05	.03	T.	.28	.41	.09	.03	....	.30	T.	.04	.35	.04	....	....	....	....	....	....	....	.13	....	.48	2.90
Bartow ||	Peace Creek	....	.01	....	....	.01	.11	.25	....	....	.13	.03	.80	.47	.09	1.15	.56	1.90	.31	.49	.45	.04	....	....	....	....	....	....	....	.23	....	7.03
Blountstown ||	Apalachicola	....	....	....	.42	.72	.14	....	....	....	....	.20	....	1.00	....	....	.84	.75	....	.20	....	....	....	....	....	....	....	....	....	....	....	.35	4.62
Bradentown	Manatee	....	.37	....	.46	.40	....	.57	.23	.55	.44	1.11	....	2.10	....	.77	.83	....	.08	.30	....	.55	....	....	....	....	....	....	....	....	....	.27	9.03
Brooksville	Withlacoochee.	....	....	.44	....	.10	.71	....	.22	.36	....	....	.84	1.76	....	1.50	....	.72	....	.50	....	.55	....	....	....	....	....	....	.20	....	....	....	7.90
Carabelle	Coast	....	....	....	....	.40	.20	.20	....	....	....	....	....	....	....	....	3.40	1.70	....	....	....	....	....	....	....	....	....	....	....	.70	....	....	6.62
Cedar Keys	do	....	....	....	.08	.73	....	....	....	.55	....	....	....	....	....	.07	3.60	1.03	....	....	.13	.08	....	....	....	....	....	....	....	....	....	....	6.20
Clermont	Lake	....	....	....	.15	.69	1.03	.33	....	....	....	.83	.45	....	....	.28	1.20	.22	....	....	....	....	....	....	....	.20	....	....	.30	....	....	....	5.67
Crescent City	St. Johns	....	....	....	.95	....	.30	....	....	....	....	....	....	....	....	.04	.04	1.10	....	....	.50	.60	....	....	....	....	....	....	.15	.75	....	....	4.48
De Land	do	....	....	....	.07	....	.43	.67	.88	....	....	.02	.03	.43	.26	.15	.57	.06	....	....	.37	....	....	....	.14	....	....	....	.33	.52	.02	....	4.93
Eustis ||	Lake	....	....	....	....	.77	1.87	.05	....	....	.15	.05	....	.50	.40	.08	.44	.66	....	....	.22	....	....	....	....	....	.20	....	.32	....	....	....	5.75
Federal Point	St. Johns	....	....	....	.43	.13	.04	.22	.01	.27	.01	.12	....	.40	.40	.21	1.36	1.95	.02	....	.04	....	....	....	....	.15	....	....	....	....	....	....	5.71
Fenholloway	Fenholloway	....	....	....	....	....	....	....	....	....	....	....	.82	....	1.05	.45	5.20	.52	....	....	....	.34	....	....	....	....	....	....	....	....	....	....	8.36
Fernandina ||	Coast	....	....	....	....	....	.15	.85	.16	.02	....	....	....	....	....	.06	6.90	.03	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	8.28
Fort Meade	Peace Creek	.36	....	....	T.	....	.87	.36	....	.12	.12	T.	1.50	T.	.46	.55	4.16	1.53	.11	.21	.16	T.	....	....	T.	T.	....	....	.41	....	....	....	10.92
Fort Myers	Caloosahatchee.	....	....	....	.28	.36	.29	T.	T.	T.	....	1.29	....	2.00	1.00	T.	1.41	.41	.25	.57	.21	T.	.12	....	....	....	.23	T.	....	....	....	8.42
Fort Pierce	Indian	....	....	....	....	.10	....	....	....	....	....	....	....	....	.20	....	.30	....	....	....	....	....	....	....	.05	....	....	....	....	....	.10	0.75
Gainesville ||	Lake	....	....	....	1.22	....	.10	....	.73	.03	.40	.26	.60	.13	....	2.03	.20	.18	....	....	....	....	....	....	....	....	....	.10	....	....	....	5.98
Grasmere	do	....	....	....	.17	.28	.44	.46	....	.07	....	.06	.02	.07	.57	.25	.90	.57	T.	.01	.03	....	.20	....	....	....	.38	....	....	....	.05	4.53
Hilliard	Nassau	....	....	....	.70	....	....	....	T.	2.50	T.	.20	.60	....	.65	2.50	.25	.50	....	....	....	....	....	....	....	....	....	....	....	....	....	7.90
Homestead	Coast	.10	....	....	.18	.32	....	.45	....	.25	.03	.45	.15	.25	....	.35	.21	.02	.17	.45	1.20	....	....	....	....	....	.17	....	.57	.10	....	5.42
Hypoluxo	Lake	....	.05	....	.04	.22	....	....	....	....	.21	....	.22	.22	....	....	1.00	.40	....	.05	.07	....	....	....	....	....	....	.05	.71	.02	....	3.26
Inverness ||	Withlacoochie.	....	....	.06	....	.11	....	....	.02	....	....	.28	.25	.10	....	.59	1.44	1.52	....	....	.20	....	....	....	....	....	....	.15	....	....	....	4.72
Jacksonville	St. Johns	....	....	....	T.	T.	.29	.60	....	.14	.08	.18	.01	T.	T.	3.16	T.	.92	....	....	T.	.37	....	....	T.	....	....	....	.61	.38	....	6.74
Jasper	Suwanee	....	....	....	.26	....	.33	....	T.	.83	....	....	....	....	....	.30	1.10	.35	....	....	T.	....	....	....	....	....	....	....	....	....	....	3.17
Johnstown	do	....	....	....	.32	....	.37	1.88	....	....	....	....	.46	.28	....	.79	1.01	.69	.42	.02	.85	....	....	....	....	....	.02	....	.04	....	....	6.87
Key West	Coast	....	T.	....	T.	.98	....	....	.06	.21	....	....	....	.15	.02	.53	....	.02	T.	.32	.07	....	T.	....	....	....	T.	....	....	....	....	2.36
Kissimmee	Kissimmee	....	....	....	1.97	.40	T.	.10	T.	.15	....	....	.15	T.	.37	.22	.65	.14	T.	.49	.10	....	....	....	....	....	....	....	....	T.	....	4.74
Lake City ||	Suwanee	....	....	.08	.20	.30	....	.31	.17	....	.30	.20	....	T.	T.	T.	2.48	.43	.73	T.	....	....	T.	....	....	....	....	.08	....	.57	5.85
Live Oak	do	....	....	....	.95	....	.65	....	.18	....	.40	....	T.	....	....	.50	4.50	.13	....	....	.15	T.	....	....	....	....	T.	....	....	....	....	7.46
Macclenny	St. Marys	.20	....	....	....	....	.12	....	....	.92	....	.68	....	....	1.68	.90	.65	....	....	....	....	....	.65	....	....	....	....	....	.35	....	....	6.15
Madison	Suwanee	....	....	....	.27	.14	....	.29	....	.05	.06	.86	.12	.02	.73	.07	.40	.34	.53	....	....	.20	.07	....	....	....	....	....	....	....	....	....	4.15
Malabar	Indian	....	....	....	.42	....	3.03	....	....	....	....	1.05	....	.01	.20	.36	....	....	.05	.20	....	....	....	....	....	....	....	.77	....	....	....	6.09
Marianna ||	Apalachicola	....	1.08	.90	1.90	T.	.39	....	.12	T.	.20	....	....	....	2.00	....	....	1.58	1.68	....	....	....	.35	....	....	....	....	....	.05	....	10.25
Merritts Island	Indian	....	....	....	T.	.12	.25	.76	....	.03	.12	....	T.	....	1.22	.28	.06	....	....	.14	.09	....	....	....	....	T.	1.75	.14	....	.03	4.99
Miami	Coast	....	....	.02	....	T.	.75	.11	....	.12	.09	.11	.33	....	....	1.04	.69	....	.22	.31	.01	....	....	....	....	T.	.32	1.80	.05	.02	5.99
Middleburg	St. Johns	....	....	....	....	.55	*	.37	....	....	.06	....	*	.92	1.63	.28	.55	....	....	.05	....	....	....	....	....	....	....	....	....	.04	4.45
Molino	Escambia	....	....	2.42	.20	1.83	....	....	....	....	....	5.10	.90	....	....	....	.55	....	....	....	....	....	....	....	....	....	....	....	....	1.35	12.35
Mount Pleasant	Apalachicola	.61	.17	.31	.16	.02	1.05	....	....	.29	.22	.81	.08	.06	.12	....	.40	.80	....	....	....	....	....	T.	T.	....	T.	.14	....	....	....	5.24
New Smyrna ||	Coast	....	....	....	....	T.	.06	.22	....	....	....	....	....	....	....	.22	.23	T.	....	....	....	.14	....	....	.39	....	....	....	....	....	....	....	1.26
Observation Island	Caloosahatchee.	....	....	....	.15	.10	.26	....	....	....	.08	....	....	.15	....	2.20	.15	....	....	....	.12	....	....	....	....	....	....	....	.10	....	....	3.31
Ocala	St. Johns	....	....	....	T.	T.	2.30	.53	....	T.	.17	....	2.10	T.	.20	.48	.15	.18	T.	....	.26	....	....	....	....	....	....	1.25	....	.78	2.20	10.60
Orange City	do	....	....	....	T.	.23	1.45	.07	.06	....	....	.12	.05	.18	.20	.48	1.11	.28	....	....	T.	T.	.08	....	....	....	....	....	.13	.28	4.72
Orlando	do	....	....	....	.42	.28	....	.14	1.40	T.	.23	T.	1.10	T.	....	.11	.10	T.	.97	.42	.28	.61	....	.42	....	....	....	.40	T.	T.	.60	7.48
Pensacola	Coast	.35	.71	.01	.42	T.	T.	1.19	.07	T.	.07	....	....	.55	....	.15	T.	.39	1.65	T.	....	.52	T.	....	....	....	....	.06	....	.12	6.26
Pinellas Park	do	....	....	....	.20	.09	....	.82	....	....	....	.63	.06	....	.15	.06	1.60	.82	....	1.00	....	....	....	....	....	....	....	....	....	....	....	5.43
Plant City	Hillsboro	....	....	....	....	.14	....	.20	....	....	....	....	....	....	.82	.92	.52	.32	....	....	....	....	....	....	....	....	....	....	.40	.05	3.97
Rockwell	Withlacoochee.	.18	....	....	....	....	.05	....	.15	.20	....	1.80	.30	....	....	.60	.70	.55	....	....	....	....	....	....	.45	....	....	.07	.14	.05	5.24
St. Andrew	Coast	....	1.04	....	.04	.31	.15	....	....	.15	....	....	.16	....	.15	....	.09	....	.48	....	.03	.11	....	.09	....	....	....	....	....	....	....	2.80
St. Augustine	do	....	....	....	....	.65	.28	....	....	....	....	....	.25	....	....	.03	....	....	....	....	....	....	....	....	.12	....	....	....	....	....	....	1.33
St. Leo	Withlacoochee.	....	....	....	....	.01	.27	1.12	....	.39	.01	....	.07	....	....	.41	.63	.84	....	....	.08	....	....	....	....	....	....	....	T.	1.01	.57	5.41
Sand Key	Coast	....	....	....	....	....	....	....	.49	T.	....	....	....	.05	....	.05	....	.24	.04	.27	....	....	T.	....	....	....	....	....	....	....	....	1.14
Satsuma Heights	St. Johns	....	....	....	.23	T.	.26	.97	.03	.19	....	....	.01	.29	.10	.01	.52	.19	....	....	.03	....	....	....	.15	....	....	....	.16	.01	....	3.15
Switzerland	do	....	....	....	.15	....	.80	....	....	....	....	.17	.05	....	....	1.20	.14	1.72	....	....	....	.34	....	....	....	....	.59	....	....	....	....	....	5.16
Tallahassee ||	Ocklocknee	....	....	....	....	1.75	.15	.25	.15	....	....	.60	.25	....	....	....	.30	3.15	2.10	....	.10	.05	....	....	....	....	....	....	....	....	....	....	8.85
Tampa	Coast	....	T.	T.	.06	1.40	.19	1.04	....	.22	.45	.22	.37	.06	T.	.49	T.	1.22	.01	.28	.03	T.	.66	....	....	T.	....	....	.14	.12	....	....	6.86
Tarpon Springs	do	....	....	.12	....	.10	.46	.10	1.33	.94	.47	.05	.12	....	....	.36	.58	1.77	.05	.05	.01	....	T.	....	....	....	....	....	.13	.02	....	....	6.66
Tttusville	Indian	....	....	.14	.03	.13	.70	.11	....	.21	....	.01	.28	....	.01	.21	.02	.01	....	.02	.02	....	....	.08	.01	....	....	1.04	.06	.08	.06	....	3.23
Alabama.																																	
Alaga ||	Chattahoochee.	....	.74	.34	.11	....	T.	....	.02	....	4.62	....	....	.02	.14	....	T.	....	.96	T.	....	....	T.	T.	....	....	....	....	....	.42	.30	....	7.67
Anniston	Coosa	.99	.22	.01	.26	.01	.20	....	.02	.02	....	.64	....	.05	T.	.32	.19	.21	.08	....	....	T.	....	.08	T.	.01	....	....	....	.92	4.23
Ashville	do	.47	T.	....	....	.45	.38	....	.12	.09	T.	.10	.32	....	....	.30	.10	.09	....	....	....	T.	....	....	.02	....	....	....	.65	....	....	3.09
Auburn	Tallapoosa	.48	.23	....	.08	T.	....	....	2.80	.01	....	.15	T.	T.	T.	.90	1.65	.26	T.	....	....	....	....	....	....	....	....	....	....	.60	7.16
Benton ||	Alabama	....	....	1.64	.28	.48	.62	.14	....	.92	.75	....	....	....	.20	....	.84	.18	....	....	....	.18	....	....	....	....	....	....	....	....	....	....	6.23
Bermuda	Escambia	....	....	.26	....	.20	.24	.41	.44	.67	.59	T.	T.	T.	.87	.71	....	1.78	....	.73	....	.09	.13	....	....	....	....	....	....	....	T.	....	7.12
Birmingham	Black Warrior.	.51	.07	.29	.04	.18	.51	T.	.06	1.33	.01	T.	T.	.23	.02	T.	.01	.96	.42	.02	....	T.	....	T.	....	.11	....	....	....	....	.88	5.65
Calera ||	Coosa	.70	.50	.01	....	....	....	1.55	....	.85	.25	....	....	.35	.28	....	....	2.45	1.20	.50	.35	....	....	....	....	....	....	....	....	....	....	....	8.99
Camp Hill	Tallapoosa	....	....	....	.34	.07	....	....	....	1.76	....	.99	.62	.24	....	.19	2.67	.54	.15	....	....	....	....	....	....	....	....	....	....	....	....	....	7.57
Cedar Bluff	Coosa	.35	.45	....	....	....	....	....	.45	.45	.60	.20	....	.45	....	.30	.25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3.50
Citronelle	Alabama	....	....	.22	....	.98	.21	.79	.48	1.70	.01	.17	.24	.11	.13	....	.03	1.62	.04	....	.67	....	....	....	....	....	....	....	....	....	....	....	7.40
Clanton ||	Coosa	.19	.71	.18	.52	.56	....	.03	....	.08	.10	....	....	....	.85	.05	....	.20	.36	.14	.78	.02	.01	....	....	.27	....	....	....	....	....	....	5.05
Cochrane ||	Tombigbee	.28	.61	....	....	.18	.44	.97	.15	....	.05	....	....	....	.15	....	1.20	1.10	....	....	....	.20	....	....	....	....	....	....	....	....	....	....	5.33
Cordova	Black Warrior.	....	....	....	....	....	.96	.20	.19	....	....	....	.20	....	.05	....	.90	.15	....	....	....	....	....	....	....	.10	....	....	....	....	.85	3.60

TABLE 2.—*Daily precipitation for July, 1912. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alabama—Contd.																																	
Cullman	Black Warrior.	.20	.10	....	.11	.20	3.06	.84	.82	.05	....	....	....	T.	T.	....	....	.98	.20	.08	....	....	....	....	....	....	....	....	....	....	....	....	6.64
Dadeville ‖	Tallapoosa	....	.31	T.	2.32	.17	T.	T.	T.	.44	T.	....	....	T.	.48	.24	....	2.65	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	6.64
Daphne	Coast	T.	T.	.48	.05	1.65	.04	.51	....	.05	.76	....	T.	.55	T.	.22	....	T.	.31	.10	.04	.38	....	....	....	....	....	....	....	....	....	....	5.14
Demopolis ‖	Tombigbee	1.36	.52	....	....	....	.29	....	....	....	.45	....	.09	....	....	....	....	.05	....	....	.64	....	....	....	.25	....	....	....	....	....	....	....	3.65
Eufaula ‖	Chattahoochee.	....	.04	.24	.36	.02	....	....	.02	T.	.15	....	.02	.01	.13	.02	T.	1.08	.04	.74	....	....	....	....	....	....	....	....	....	T.	....	....	2.87
Fort Deposit ‖	Escambia	.10	.10	....	....	.60	....	T.	....	.24	....	....	....	....	....	....	.25	.50	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	1.89
Gadsden ‖	Coosa	.66	.11	.12	....	....	....	.20	....	....	.77	.40	.06	.40	....	....	....	.20	.08	.04	.04	....	....	....	....	....	....	....	....	....	....	....	3.14
Goodwater ‖	....do	.07	.95	.04	....	.21	.16	....	....	1.26	.05	....	....	.25	....	.56	....	2.25	.19	.19	....	.20	....	....	....	....	....	....	....	....	....	....	6.38
Greensboro ‖	Black Warrior.	.47	.14	....	1.44	.05	....	....	....	....	....	....	....	....	.76	....	....	....	2.20	1.43	.15	....	....	....	....	....	.44	....	....	....	....	....	7.08
Greenville	Escambia	....	....	.48	....	....	1.02	....	.98	....	....	1.02	....	....	.47	....	....	.47	....	....	.54	....	.62	....	....	....	.42	....	....	....	....	....	6.02
Hamilton	Tombigbee	.40	....	....	....	.21	.30	.05	.41	.18	....	1.20	....	....	.11	....	....	....	.08	.42	1.65	....	....	....	....	.03	....	....	....	....	....	....	5.13
Healing Springs ‖	....do	T.	.09	.19	....	....	T.	.15	.03	T.	.09	....	.02	.02	.42	T.	....	.05	T.	.50	.05	.17	.09	.05	....	....	....	....	....	....	....	.31	2.29
Highland Home	Escambia	....	.12	.43	.09	....	T.	T.	.25	1.20	T.	....	....	.03	....	....	....	T.	.11	T.	....	T.	.01	....	....	....	T.	....	....	....	....	....	2.24
Livingston ‖	Tombigbee	.30	....	....	....	....	....	....	....	.09	.07	....	....	....	....	.10	....	....	.89	....	.70	....	....	.83	....	....	....	....	....	....	....	....	3.04
Lock No. 4	Coosa	.30	.45	....	....	.80	....	....	....	.75	....	.15	.15	.26	....	....	....	.87	.30	....	....	....	....	....	....	1.08	....	....	....	....	....	.50	5.67
Maple Grove	....do	.40	.74	....	T.	....	.89	....	.29	1.20	.22	.21	....	....	....	....	.31	.40	.90	T.	....	....	....	....	....	.16	....	....	....	....	....	.34	6.06
Mentone ‖	....do	....	1.06	.26	....	....	.78	.64	....	1.00	....	.26	.21	....	.50	....	T.	.42	.23	.22	2.08	....	....	....	T.	....	....	....	....	....	....	....	7.06
Milstead ‖	Tallapoosa	.10	....	.10	1.50	.10	....	....	....	.10	.10	....	....	....	.40	.10	....	.40	.40	.20	.45	....	....	....	....	.10	....	....	....	....	....	....	4.05
Mobile	Coast	T.	.07	.14	.10	.23	.95	.24	T.	.74	T.	....	T.	1.29	1.35	....	....	T.	.44	.49	....	.73	.02	....	....	....	....	....	....	....	....	T.	6.79
Montgomery	Alabama	.56	.35	.16	....	.13	....	....	1.47	.72	.01	T.	....	T.	....	....	.34	1.31	.01	.28	....	.01	....	....	....	T.	....	....	....	....	....	.30	5.65
Newbern	Bl'k Warrior	T.	.18	.56	.04	.02	.01	....	....	.01	.01	....	....	.30	....	....	T.	.02	.35	.46	....	....	.56	....	....	.23	....	....	....	....	....	.10	2.85
Oneonta	....do	.22	.57	1.60	.06	3.30	.17	.01	.03	.16	.15	.11	.06	....	.03	....	.16	.74	.08	.25	....	....	....	....	....	.06	....	....	....	....	....	1.00	8.76
Opelika ‖	Tallapoosa	.37	.47	.38	T.	.10	....	....	....	.65	T.	....	.18	....	....	....	....	1.47	.15	.41	....	.25	....	....	....	....	....	....	....	....	....	....	4.43
Ozark ‖	Coast	....	....	.45	1.00	.20	....	.45	.15	T.	.15	.50	....	.15	T.	.30	....	T.	.15	.75	....	....	.15	....	....	....	....	....	....	....	....	....	4.40
Prattville	Alabama	.02	....	....	....	....	....	....	T.	.21	.02	....	....	T.	.53	....	T.	.58	.37	1.18	....	....	T.	....	....	T.	....	....	....	....	....	....	2.91
Pushmataha	Tombigbee	T.	1.56	.38	....	T.	....	.15	.14	.63	1.02	....	....	....	T.	.25	....	.75	1.43	.53	....	....	.79	.20	....	....	....	....	....	....	....	.63	8.46
Robertsdale	Coast	.26	.49	.05	.33	.18	.30	.31	.14	.31	.42	.01	.19	T.	.48	.74	.01	....	.26	.22	.32	.92	....	....	....	....	....	....	....	....	....	....	5.94
Selma ‖	Alabama	.40	.03	.40	.15	.09	.06	....	.10	T.	.76	....	....	....	1.23	....	....	.37	.62	.10	.76	....	T.	....	....	....	T.	....	....	....	....	....	5.67
Springhill ‖	Coast	.43	.01	1.20	1.15	.61	.07	.11	.06	.03	1.27	....	....	....	.05	.75	....	....	.35	.61	.54	.03	.45	....	....	....	....	....	....	....	....	....	7.72
Talladega	Coosa	.50	....	....	.20	....	.51	.12	.40	T.	....	....	.50	....	.15	.10	.20	1.65	....	.50	....	....	....	....	....	....	T.	....	....	....	.10	4.93
Tallassee ‖	Tallapoosa	.19	....	.16	2.71	....	....	....	....	.10	.02	....	.04	....	.09	.14	....	T.	.50	.38	.20	.95	....	....	....	....	....	.50	....	....	....	....	5.98
Thomasville ‖	Tombigbee	.61	....	1.17	1.50	....	.14	....	.24	....	.05	T.	....	T.	....	....	.35	.48	T.	.08	.56	....	.44	....	....	....	....	....	....	....	....	....	5.62
Troy	Escambia	T.	.05	T.	.31	....	....	.61	.07	.91	.01	....	....	....	.06	....	.05	....	.29	.16	....	.05	....	T.	....	....	....	....	....	....	....	....	2.57
Tuscaloosa ‖	Bl'k Warrior	.31	.13	.03	....	.37	.16	T.	....	.07	.04	....	....	.17	....	.55	T.	.15	.59	.08	.04	....	....	T.	.13	....	.12	....	....	....	....	....	2.94
Tuskegee	Tallapoosa	....	....	....	....	....	....	....	1.05	1.30	.13	....	.80	....	....	....	1.85	.60	....	....	....	....	....	....	....	....	.50	....	....	....	....	....	6.23
Union Springs ‖	....do	.30	....	.32	.22	....	T.	....	.09	.96	.08	....	....	....	....	....	....	.64	.13	.22	....	....	.14	....	....	....	.37	....	....	....	....	....	3.47
Uniontown	Bl'k Warrior	....	1.50	....	....	1.02	....	....	....	.30	....	....	.73	....	.13	....	....	.22	.25	.83	....	....	.05	....	....	....	....	....	....	....	....	....	5.03
Valley Head	Coosa	.35	.38	....	T.	.79	.35	....	1.02	T.	T.	.37	T.	....	....	.15	.13	.35	.17	.95	....	....	....	T.	....	T.	....	....	....	....	....	T.	5.01
Wetumpka ‖	....do	....	.40	....	.31	....	.26	....	....	....	....	....	....	....	....	....	....	.63	.23	....	....	....	....	....	....	....	....	....	....	....	....	....	1.83
Mississippi.																																
Aberdeen ‖	Tombigbee	.46	1.27	.06	T.	....	.64	....	.11	T.	.40	....	.43	....	T.	.22	....	.24	2.00	.21	T.	....	T.	T.	T.	....	T.	....	....	....	....	....	6.04
Agricultural College	....do	.80	.02	2.60	.02	.05	T.	.05	.08	.45	....	.10	T.	T.	.50	.65	.05	.35	.90	.05	T.	....	.05	....	....	....	....	....	....	....	....	.05	6.77
Bay Springs	Leaf	....	.07	....	.02	.08	....	....	.01	....	....	....	....	1.50	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.01	1.69
Bay St. Louis	Coast	3.42	.01	T.	.02	.81	.02	.22	.61	.40	1.07	....	T.	.26	....	....	....	....	.04	.20	....	.06	.04	....	....	....	.15	T.	....	....	....	.20	7.53
Biloxi	....do	.40	.22	....	.08	.87	T.	.32	T.	....	.05	....	....	....	....	.39	.20	....	3.72	.55	....	.85	....	....	....	....	....	....	....	....	....	.01	7.66
Booneville	Tombigbee	.34	....	....	....	....	.52	1.04	....	.04	....	....	....	....	.29	....	.01	.14	.03	1.83	....	....	....	....	.22	....	....	....	....	....	....	.04	4.50
Brookhaven ‖	Pearl	....	....	....	.10	....	.01	....	....	.01	.38	.16	....	....	....	.02	.15	.15	.04	1.20	.01	T.	....	.09	....	....	....	.02	....	....	....	....	2.34
Columbia ‖	....do	.10	.02	.72	.30	.02	.22	.24	T.	.40	.41	.40	....	T.	T.	.06	.98	....	T.	.93	.04	....	.46	.07	....	....	....	....	....	....	....	....	5.37
Columbus ‖	Tombigbee	T.	1.10	T.	....	....	T.	....	T.	T.	2.10	....	.04	....	T.	....	.20	.09	1.58	.24	.20	....	....	....	....	.12	....	....	....	....	....	....	5.67
Crystal Springs ‖	Pearl	....	....	.02	....	....	.16	....	....	.98	.10	.02	....	....	....	....	1.21	....	1.30	.72	.08	.06	.09	.42	....	....	....	....	....	....	....	....	5.16
Edinburg	....do	.60	.12	....	T.	.49	T.	.04	T.	.02	.03	.15	....	....	.38	.30	.07	.44	2.08	.14	....	T.	.01	T.	....	....	....	....	....	....	....	....	4.87
Enterprise ‖	Chickasawhay.	.32	.20	3.08	2.00	....	.18	.08	....	.07	.40	.68	....	.28	.58	....	....	....	.10	1.08	.26	....	.30	.05	....	....	....	....	....	....	....	....	9.66
Fulton ‖	Tombigbee	.26	.03	....	.43	....	....	....	....	.25	.04	....	....	....	....	....	....	T.	....	.55	.82	.05	....	....	.05	....	.77	....	....	....	....	....	3.25
Hazlehurst ‖	Pearl	.06	.02	.10	....	....	.27	....	.42	.27	07	.35	....	....	....	.16	1.32	.06	1.51	.78	.04	.04	....	....	....	....	....	.04	....	....	....	....	5.51
Hickory ‖	Chickasawhay.	.72	....	3.00	....	.30	....	.46	.56	.06	....	....	....	.65	.32	....	.02	.92	.20	....	.10	.04	.05	....	....	....	....	....	....	....	....	.10	7.50
Jackson	Pearl	.01	....	T.	T.	.21	T.	.06	....	1.91	....	.75	.19	....	.02	....	.41	.07	2.71	.23	.10	....	.62	....	....	....	.01	....	....	....	....	.22	7.52
Lake ‖	....do	.19	.05	2.50	.38	.32	3.40	....	.50	.40	T.	.20	....	....	....	T.	.70	.10	1.60	.14	.28	....	T.	.22	.12	....	....	....	....	....	....	....	11.10
Laurel	Leaf	.12	.10	.11	T.	1.05	.93	T.	.01	T.	.25	....	....	.10	....	.34	....	.55	.52	.50	....	.02	.31	....	....	....	....	....	....	....	....	.76	5.67
Leakesville ‖	Chickasawhay.	....	....	.03	.12	1.05	.06	.45	.09	....	....	.10	.13	.05	....	.56	....	....	1.40	.28	....	....	.20	....	....	....	....	....	....	....	....	....	4.52
Louisville	Pearl	.85	....	.75	.76	.03	....	....	....	.17	.16	....	....	....	....	.14	....	1.37	.63	.35	....	....	....	....	....	....	....	....	....	....	....	....	5.21
McNeill	....do	.27	.14	.75	.61	1.95	T.	.82	....	.02	.28	....	T.	....	.22	.23	.05	....	.64	....	.28	.47	....	....	....	....	....	....	....	....	....	.11	6.84
Macon ‖	Tombigbee	....	.72	.07	....	....	T.	T.	.30	T.	.47	.03	....	.07	T.	T.	.04	T.	.39	2.00	T.	....	T.	T.	....	....	....	....	....	....	....	....	4.09
Magnolia	Pearl	T.	.04	.06	1.40	1.41	.06	.01	.13	.01	.24	....	....	.13	.09	.03	.15	1.05	.67	.09	....	....	.85	....	....	.03	....	....	....	....	....	.03	6.48
Meridian	Chickasawhay.	.32	.60	.62	....	.23	.87	.19	.24	.37	.16	T.	....	....	.38	.18	.04	.94	1.62	.42	....	....	.56	T.	....	....	....	....	....	....	....	.02	7.76
Merrill ‖	Pascagoula	....	T.	....	T.	....	.24	.12	.30	.28	.78	.02	....	.04	....	2.34	1.06	....	1.02	.56	.24	....	.10	.04	....	....	....	....	....	....	....	....	7.14
Monticello	Pearl	.09	.27	3.18	.02	.25	.46	.23	.06	.19	1.18	....	....	....	....	.26	.21	.01	.90	.25	.13	.02	.12	....	....	....	....	....	....	....	....	.20	8.03
Okolona ‖	Tombigbee	2.00	.95	....	.70	....	.10	....	.54	....	....	....	1.36	....	.35	....	....	....	.20	.65	.15	....	....	....	....	.13	....	....	....	....	....	....	7.13
Pascagoula	Coast	.12	....	....	.53	....	.31	....	.13	....	.52	....	....	.47	....	.44	....	....	1.72	.38	....	.50	....	....	....	....	....	....	....	....	....	....	5.12
Pearlington	Pearl	2.53	....	....	1.23	1.17	....	.10	.05	.87	.02	....	T.	T.	T.	1.47	.96	....	.66	.06	....	.25	....	....	....	....	....	....	....	....	....	T.	9.37
Porterville	Tombigbee	.15	.68	.33	....	....	....	....	....	.51	....	....	....	....	....	....	.33	T.	2.48	....	....	....	....	....	....	....	....	....	....	....	....	1.14	5.62
Shubuta ‖	Chickasawhay.	.50	.16	.52	.17	.33	.16	.32	.14	.10	....	.60	....	....	.15	.12	.85	.24	....	.96	....	....	.23	....	....	....	....	....	....	....	....	....	5.55
Tupelo	Tombigbee	.81	....	....	T.	T.	....	....	T.	T.	....	T.	....	....	T.	T.	....	.07	.07	.67	....	....	....	....	....	.10	....	....	....	....	....	.08	1.80
Waynesboro ‖	Chickasawhay.	T.	T.	.04	.30	T.	T.	.30	T.	.16	....	.70	T.	....	....	2.40	.22	....	....	1.12	.22	....	T.	.10	....	....	....	....	....	....	....	....	5.56

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1912. District No. 2, South Atlantic and east Gulf States.*

Date.	Virginia.								North Carolina.																		Charleston, S. C.	
	Hot Springs.		Lynchburg.		Norfolk.		Richmond.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern.§§		Raleigh.		Mount Airy.		Salisbury.		Wilmington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Mjn.	Max.	Min.
1....	66	59	74	62	73	64	75	61	83	67	82	68	80	66	74	70	79	63	75	66	71	64	85	67	79	67	91	70
2....	72	55	81	63	79	64	78	61	80	65	83	62	85	65	78	69	81	64	81	64	76	60	83	64	80	66	82	70
3....	79	54	84	67	84	68	86	67	81	68	87	63	84	68	80	71	87	61	83	69	84	68	83	69	81	65	82	74
4....	79	58	85	67	86	68	88	67	85	68	89	62	84	70	82	70	90	61	84	70	84	67	85	69	82	69	82	73
5....	73	63	85	69	83	68	88	67	86	70	87	62	83	CS	82	72	89	61	86	68	75	67	87	69	82	68	81	73
6....	78	55	85	65	82	70	87	65	86	65	87	63	88	66	81	74	92	64	87	67	85	69	90	63	82	70	82	72
7....	82	55	88	65	86	71	91	66	87	68	92	67	91	67	85	74	88	65	86	70	87	67	87	67	84	70	80	70
8....	82	57	90	66	90	71	92	68	86	66	91	69	80	68	85	73	91	67	85	69	86	65	86	63	82	72	79	71
9....	81	55	87	69	86	72	85	68	86	67	87	72	88	71	82	75	86	66	86	69	86	63	89	66	85	71	84	73
10....	83	60	90	69	90	73	92	70	86	69	91	73	90	69	85	76	90	67	89	68	87	68	88	69	87	73	86	77
11....	79	48	88	68	88	72	90	70	85	68	90	70	90	69	84	75	89	65	87	69	83	66	87	69	86	73	84	72
12....	80	56	91	69	87	71	88	70	88	69	91	70	89	69	83	73	88	66	88	70	89	64	87	69	84	72	83	73
13....	83	59	92	68	90	70	92	68	89	69	91	71	91	69	84	73	90	66	90	69	90	65	90	68	85	70	82	73
14....	84	60	92	71	92	73	92	72	88	72	92	70	90	70	86	74	89	67	90	70	89	66	89	71	85	71	85	74
15....	84	61	89	71	91	75	92	72	91	71	91	72	91	70	86	76	90	70	90	71	87	67	91	71	86	74	82	70
16....	91	61	91	72	92	73	95	71	89	68	93	74	90	69	86	75	91	68	90	69	88	59	87	68	86	74	83	75
17....	85	57	89	69	92	74	94	71	84	69	94	74	86	71	86	75	92	68	90	70	88	61	87	71	87	75	85	78
18....	78	64	89	71	91	75	93	71	86	70	93	75	91	72	85	75	91	68	90	73	85	59	89	71	88	75	87	78
19....	83	51	87	68	81	70	83	66	86	70	85	73	88	73	88	74	90	69	89	72	86	69	90	69	90	71	87	77
20....	70	47	78	66	82	68	84	63	76	70	81	66	82	71	80	72	89	66	75	69	79	66	79	64	82	72	87	77
21....	74	57	93	69	91	74	94	71	88	69	92	70	91	73	85	74	89	67	91	72	90	66	89	68	90	72	89	78
22....	82	51	91	75	89	77	90	71	93	74	93	68	94	74	91	76	94	71	94	76	91	66	93	73	94	76	95	78
23....	79	54	85	69	77	71	81	66	88	73	87	66	89	75	84	71	89	68	88	73	87	67	91	70	85	75	92	78
24....	83	46	92	68	83	67	87	67	89	73	88	62	91	74	82	70	88	62	90	71	92	64	91	70	87	72	89	77
25....	80	53	87	68	75	69	80	65	90	74	83	63	92	77	83	73	90	70	92	73	91	69	93	72	91	78	94	79
26....	72	48	82	69	85	69	85	68	88	71	89	70	93	70	87	72	88	66	90	72	84	65	89	68	92	74	96	79
27....	71	41	84	62	84	69	86	64	84	65	86	63	88	67	82	71	84	61	86	68	86	61	88	65	86	70	85	75
28....	81	38	88	60	87	67	90	62	88	66	90	60	91	65	86	70	90	62	90	67	86	53	89	61	86	71	86	77
29....	73	48	89	70	90	67	90	70	89	69	91	71	95	68	85	76	92	66	90	70	87	60	90	69	91	73	94	76
30....	73	41	83	69	82	68	85	68	87	70	87	70	91	74	86	71	90	68	88	74	85	59	88	67	90	75	97	79
31....	71	40	86	59	84	68	90	64	86	65	90	63	92	67	84	71	91	64	90	66	85	54	90	68	90	74	91	74
Mns..	78.4	55.3	86.9	67.5	85.5	70.2	87.8	67.4	86.4	69.0	88.8	67.8	88.8	69.8	83.8	72.9	88.9	65.7	87.4	69.8	85.5	64.0	88.1	68.0	86.0	71.9	86.5	74.8

Date.	South Carolina.														Georgia.													
	Columbia.		Conway.§§		Ferguson.§§		Georgetown.		Newberry.		Society Hill.		Greenville.§§		Albany.§§		Atlanta.		Augusta.		Columbus.§§		Dahlonega.		Macon.		Rome.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	88	67	91	72	89	72	86	74	94	71	83	66	87	67	89	69	83	67	88	69	85	70	85	65	85	67	87	64
2....	84	67	.....	67	86	66	82	68	88	67	84	69	83	65	90	69	82	66	88	69	85	70	79	64	89	69	84	67
3....	86	68	90	.....	85	69	84	67	87	69	84	67	84	65	92	71	80	66	83	69	86	68	83	62	83	70	84	66
4....	87	69	90	65	87	67	85	68	87	68	85	69	87	66	91	69	84	67	86	70	88	70	80	64	85	70	89	68
5....	86	70	90	65	88	67	84	68	86	72	86	67	74	68	90	70	83	68	86	72	88	72	77	67	85	70	89	69
6....	86	66	88	67	85	66	82	70	88	66	84	65	86	64	92	71	82	67	87	69	88	72	81	66	85	71	88	69
7....	85	66	86	65	88	67	85	70	88	66	85	67	87	65	91	72	84	67	83	69	90	71	80	66	87	70	90	68
8....	84	67	90	62	78	69	85	74	89	67	79	69	87	66	90	70	82	68	86	69	90	71	83	67	87	72	88	68
9....	89	68	85	70	89	67	83	71	90	67	86	67	84	65	92	71	82	68	88	70	89	70	85	66	85	72	89	68
10....	82	69	87	69	85	70	90	74	89	70	82	64	89	66	92	71	81	67	80	70	88	69	85	64	86	70	89	69
11....	86	69	90	70	86	69	88	73	88	68	86	67	86	67	91	70	84	67	84	69	91	70	78	66	88	68	89	70
12....	90	69	88	69	89	66	89	72	92	68	88	69	88	66	91	71	82	67	85	69	91	72	84	64	89	71	89	70
13....	87	69	89	68	89	67	88	71	92	69	88	70	92	65	91	72	83	68	89	70	88	72	88	67	87	69	90	67
14....	90	71	91	69	89	70	85	71	90	75	89	71	91	67	94	71	89	70	90	74	94	72	89	65	89	71	90	70
15....	86	75	90	71	86	72	85	74	87	73	87	69	90	69	90	72	85	70	86	71	90	73	83	69	85	73	91	68
16....	87	71	89	70	86	71	88	77	88	71	89	72	88	68	79	70	79	68	84	70	79	74	78	69	82	71	86	70
17....	86	72	90	71	87	71	88	76	89	72	85	70	86	69	85	70	83	69	87	72	86	74	80	69	86	72	88	66
18....	89	72	90	70	92	70	91	74	91	72	90	73	87	69	91	71	83	69	90	73	84	73	81	68	87	71	88	64
19....	91	74	93	71	91	70	90	73	91	71	88	70	89	68	93	72	86	69	90	74	91	72	83	67	90	72	87	65
20....	90	74	94	72	93	71	90	73	93	71	86	71	86	69	94	74	90	71	90	74	94	73	82	69	90	75	94	64
21....	93	74	95	71	94	70	92	73	95	72	90	74	90	69	93	72	88	71	92	74	93	73	89	69	92	75	95	64
22....	95	75	98	72	96	75	94	77	95	70	91	75	93	71	95	74	88	71	92	77	93	74	88	68	91	74	93	63
23....	92	76	90	76	94	75	88	78	95	75	88	73	92	70	95	75	91	74	94	77	95	71	90	70	95	76	94	65
24....	96	75	92	72	94	73	90	72	98	75	92	77	93	73	96	77	88	74	96	76	95	77	88	68	95	78	95	67
25....	96	79	90	77	95	73	94	78	99	78	91	71	98	72	96	78	93	74	96	80	99	78	89	73	96	74	99	67
26....	94	74	90	70	96	73	95	76	96	71	91	67	93	70	95	76	86	70	93	76	92	73	85	68	90	75	90	60
27....	88	68	95	68	90	70	87	72	91	65	85	64	88	58	94	70	87	66	91	72	93	78	85	59	91	72	90	60
28....	90	69	92	66	91	69	88	68	94	64	88	70	91	62	94	74	91	70	91	71	95	72	88	63	92	73	96	63
29....	96	72	97	67	95	70	94	78	98	74	92	73	92	66	95	73	90	74	94	73	95	75	87	63	95	75	96	67
30....	94	75	98	68	94	75	93	78	95	72	89	68	92	68	96	73	85	71	92	76	94	75	83	69	91	73	90	68
31....	94	68	96	70	.....	68	86	74	95	64	91	68	89	60	97	69	88	67	93	69	95	68	84	57	94	66	96	62
Mns..	89.2	70.8	91.1[a]	69.0[a]	89.6[a]	69.9	88.2	73.0	91.5	70.0	87.2	69.4	88.4	66.9	92.1	71.8	85.2	69.1	88.8	72.0	90.5	72.3	83.9	66.2	88.8	71.8	90.4	66.3

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1912. District No. 2*—Continued.

Date.	Georgia.						Florida.																			
	Savannah.		Thomasville.		Waycross.§§		Avon Park.		Fort Myers.		Gainesville.§§		Jacksonville.		Key West.		Miami.		Ocala.		Orlando.		Pensacola.		Tallahassee.§§		Tampa.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	90	71	88	69	92	72	90	71	91	73	91	70	90	77	87	78	88	80	81	69	92	71	79	70	86	72	91	74
2	85	71	90	68	94	70	91	68	91	74	92	69	90	74	88	79	86	80	83	69	90	68	77	69	89	72	93	74
3	83	71	90	68	91	68	89	74	90	72	90	71	86	74	88	80	86	77	81	69	91	75	82	73	86	69	91	73
4	82	70	89	69	90	70	90	72	88	75	87	69	82	72	88	78	88	74	88	68	86	74	80	73	86	70	90	73
5	82	70	89	68	91	69	88	70	85	72	88	71	86	73	87	69	87	75	92	69	86	72	82	74	85	69	88	70
6	84	71	87	70	92	70	89	68	85	72	91	71	85	72	87	78	89	72	94	70	90	70	83	73	83	70	88	71
7	83	72	87	70	91	70	86	70	85	70	88	68	85	71	88	79	85	74	88	69	89	70	82	72	80	70	88	70
8	83	72	90	69	94	70	89	69	89	71	89	69	87	73	88	79	86	79	89	69	91	70	83	70	86	69	86	71
9	86	74	93	70	92	71	89	74	87	73	88	70	85	74	88	74	86	77	90	71	87	74	83	76	87	72	91	73
10	82	72	87	70	88	72	89	75	89	75	88	73	85	76	88	75	88	76	89	77	92	73	84	74	84	71	91	73
11	85	70	83	69	91	73	91	73	88	74	90	72	87	75	88	74	88	74	91	71	91	74	85	73	82	69	92	73
12	89	70	91	69	95	69	91	70	85	73	91	68	90	71	89	79	89	75	92	70	90	73	86	75	87	70	89	70
13	87	73	92	72	89	70	89	69	88	71	91	71	89	71	88	77	88	75	92	71	92	70	87	75	87	72	89	70
14	86	73	91	70	92	70	89	72	87	73	90	71	89	72	88	78	90	74	92	71	89	74	88	75	89	72	88	74
15	81	71	88	72	85	74	87	71	86	72	85	73	83	72	87	74	83	74	83	73	85	74	89	73	89	72	83	72
16	84	72	81	71	84	71	89	73	86	72	85	72	85	72	86	78	86	73	87	73	90	73	86	75	80	72	84	74
17	85	74	82	71	86	72	82	72	86	73	87	71	81	71	85	73	87	79	87	71	85	72	83	73	77	70	87	71
18	88	76	90	70	91	70	89	71	89	72	91	70	88	72	88	78	88	77	90	69	91	71	81	73	84	70	91	71
19	86	77	94	69	94	72	88	74	87	73	92	71	90	75	84	72	85	72	92	71	90	74	86	77	88	71	91	72
20	87	75	92	72	94	71	87	75	87	72	93	71	89	75	87	75	88	75	90	72	90	74	87	75	87	72	89	74
21	93	76	90	72	95	72	92	75	89	74	91	72	92	75	88	80	88	81	93	71	92	73	83	74	86	73	92	75
22	94	76	94	71	96	73	91	73	89	73	92	70	94	75	88	80	88	80	95	72	94	75	85	80	90	73	91	72
23	95	78	95	74	98	75	94	73	90	74	95	70	95	76	88	79	89	74	96	69	94	74	90	77	90	74	92	76
24	92	75	97	76	99	77	96	75	90	74	94	75	96	79	89	78	93	73	95	76	94	78	93	77	92	75	91	77
25	94	78	96	77	98	79	95	73	89	78	93	76	95	80	89	81	94	78	95	78	96	81	94	78	93	76	91	80
26	97	78	97	70	99	78	96	76	89	79	96	78	98	80	87	81	92	79	97	79	97	81	97	80	93	77	91	81
27	87	74	94	69	97	74	96	75	90	79	96	70	93	76	87	81	90	78	98	74	97	82	92	74	91	73	92	80
28	88	72	94	75	95	76	97	77	91	77	93	76	92	79	85	79	89	75	90	74	93	77	89	75	90	73	94	79
29	93	75	93	72	96	75	90	75	85	75	93	72	95	76	88	81	88	74	87	73	91	75	91	79	90	72	89	78
30	94	76	97	72	97	75	92	70	87	75	91	72	92	75	88	81	88	77	85	73	88	77	90	79	94	75	87	79
31	95	72	97	67	98	69	87	70	88	75	96	76	91	76	88	80	88	76	90	68	90	73	91	74	92	76	90	81
Mns..	87.7	73.5	90.9	70.7	93.0	72.2	90.3	72.4	87.9	73.7	90.9	71.5	89.2	74.5	87.5	77.8	87.9	76.0	90.1	71.6	90.7	73.9	86.1	74.7	87.2	72.0	89.7	74.2

Date.	Alabama.																Mississippi.							
	Anniston.		Bermuda.		Birmingham.		Eufaula.§§		Mobile.		Montgomery.		Tuscaloosa.§§		Uniontown.		Columbus.§§		Jackson.		Laurel.		Meridian.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	83	64	.....	.....	80	67	83	67	80	73	86	69	84	68	86	68	88	69	89	70	84	68	84	68
2	85	68	.....	.....	83	68	84	68	81	73	84	69	88	68	89	68	88	69	91	70	91	69	86	69
3	84	68	86	68	83	70	83	65	84	74	85	70	90	70	93	68	90	70	92	70	85	72	87	68
4	86	68	89	69	85	69	86	66	85	71	87	71	93	70	94	70	94	70	94	72	92	72	89	68
5	84	70	85	69	83	69	86	67	85	74	85	72	90	69	87	70	91	72	92	72	92	70	86	70
6	84	68	87	70	82	70	88	68	86	70	87	71	88	70	88	72	90	71	90	69	89	69	85	70
7	85	68	87	70	87	69	89	67	84	72	88	72	89	70	88	71	90	72	92	69	90	67	87	68
8	84	70	86	70	86	71	88	68	85	74	85	69	90	70	89	70	92	70	90	71	83	70	85	71
9	85	68	89	68	85	69	84	69	84	72	89	69	90	70	90	70	86	71	78	72	80	72	84	71
10	85	68	87	69	84	68	85	67	82	72	87	70	93	70	85	70	90	70	90	70	88	69	81	69
11	87	68	88	68	87	70	88	68	86	72	89	70	92	70	88	70	90	71	90	70	89	69	88	69
12	86	68	89	69	87	70	92	68	88	74	91	74	92	71	92	70	94	68	92	69	93	70	90	71
13	88	69	91	70	87	71	88	68	88	74	93	73	94	71	91	70	95	71	94	72	95	70	91	72
14	88	68	93	70	90	70	91	69	91	70	91	72	95	72	92	71	95	71	96	72	94	70	90	72
15	88	71	90	70	90	72	90	69	93	72	90	74	93	72	92	72	94	72	92	72	94	71	90	70
16	80	72	89	71	83	72	77	70	91	75	80	72	90	72	90	72	91	72	93	71	92	70	88	71
17	84	71	88	72	81	71	81	69	85	76	86	71	84	72	90	74	85	71	94	74	91	73	88	71
18	85	72	84	72	85	72	80	70	84	73	85	73	88	72	91	73	89	72	87	73	87	71	83	71
19	86	71	86	71	86	72	88	68	84	75	86	72	94	73	90	71	92	73	86	73	85	73	85	73
20	91	69	92	69	88	71	90	69	91	74	93	72	94	73	92	70	92	71	93	72	92	71	91	70
21	90	70	88	72	89	74	89	70	84	76	90	74	93	73	91	71	95	72	93	72	91	71	90	72
22	90	70	88	73	89	73	91	70	88	77	90	73	91	74	91	75	92	73	92	74	90	75	85	74
23	91	72	91	72	89	74	93	71	92	76	92	75	94	75	91	75	95	75	92	73	93	71	88	73
24	91	76	92	72	91	76	93	73	93	76	92	77	97	75	94	75	95	74	93	72	93	70	91	74
25	95	71	95	74	95	74	95	74	95	77	95	74	98	76	96	74	98	74	96	72	94	71	93	73
26	89	68	93	74	89	69	92	71	98	80	93	73	94	72	95	73	92	71	95	77	95	75	93	75
27	88	60	90	65	87	64	92	65	92	75	90	67	92	65	94	74	89	64	89	90	93	69	87	68
28	92	63	95	67	91	68	94	68	96	72	95	71	94	65	95	72	95	65	92	66	96	65	93	67
29	90	66	96	71	90	70	95	72	96	77	95	75	93	70	95	73	92	67	92	68	95	68	91	70
30	89	67	95	69	91	71	95	70	97	76	95	74	95	71	95	78	96	69	97	69	97	70	93	72
31	90	63	97	68	89	68	95	69	93	78	94	71	96	71	93	75	95	72	91	72	96	72	91	70
Means	87.2	68.5	89.9[b]	70.1[b]	86.8	70.4	88.5	68.8	88.4	74.2	89.3	71.9	91.9	71.0	91.2	71.8	91.9	70.7	91.5	71.2	90.9	70.6	88.2	70.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 3, OHIO VALLEY.

Prof. FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

The chief features of the weather conditions during July, 1912, in the Ohio Valley were the unusual rains, remarkable both in frequency and in the amount of precipitation, and the absence of any extremely hot weather. Showers, more or less general and heavy, occurred nearly every day, and while they were beneficial and greatly advanced the growth of vegetation they also interfered considerably, particularly in the early part of the month, with cultivation and harvesting of crops, besides occasioning considerable damage, especially to wheat in shock. The monthly rainfall was exceedingly variable, not only for the district as a whole, but over the several sections of the States composing the district. Thunderstorms were frequent and in many cases considerable local damage was caused by wind, lightning, and hail attending them. The most serious damage of the month resulted from the excessive rains over the Monongahela and Cheat River Basins in Pennsylvania and West Virginia about the 24th and 25th, when a number of lives were lost and much property destroyed.

There were no great extremes of temperature, but during much of the month atmospheric conditions were sultry and oppressive with high humidity, and consequently there was much discomfort and suffering, particularly in the larger cities.

High-pressure areas largely dominated the weather conditions over the district through the month. Only a few shallow barometric depressions drifted eastward, their paths lying north of the district. The most important of these occurred in the periods 13th–15th, 20th–21st, and 28th–29th.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

Portions of States included in the Ohio River Basin.	Temperature.				Precipitation.						
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest monthly.	Least monthly.	Greatest in 24 hours.	Average number of days.	Average snowfall.
New York	67.8	+ 0.8	94	32	4.15	+ 1.49	6.31	2.61	2.29	14	0
Pennsylvania	70.8	− 0.5	96	40	7.17	+ 2.19	12.65	3.16	4.10	12	0
Maryland	67.2	0	91	43	9.44	+ 4.67	12.54	5.12	4.13	13	0
West Virginia	73.2	0	99	45	7.56	+ 2.82	15.22	2.67	4.50	13	0
Ohio	73.8	0	101	42	5.73	+ 1.52	9.66	1.90	3.74	11	0
Indiana	75.5	+ 0.1	100	49	5.08	+ 1.18	8.92	1.64	4.82	12	0
Illinois	76.6	− 0.1	98	49	5.73	+ 1.98	9.53	2.50	5.33	11	0
Kentucky	76.8	0	100	53	5.50	+ 1.31	8.84	1.84	4.25	12	0
Tennessee	76.8	− 0.1	99	47	6.10	+ 1.35	10.50	2.82	3.38	12	0
Alabama	78.6	− 0.6	98	56	4.99	− 0.03	7.00	3.44	3.68	13	0
Georgia	73.2	− 1.1	88	55	7.25	+ 0.70	.....	.....	1.30	20	0
North Carolina	70.2	− 0.4	93	46	7.05	+ 1.73	17.78	3.40	3.19	17	0
Virginia	69.5	− 0.7	88	44	4.88	+ 0.23	7.43	3.49	1.98	13	0

TEMPERATURE.

The temperature averaged about normal in all parts of the district. There were no unusual extremes and the daily departures as a rule were small. Conditions varying not far from normal prevailed during the first 18 days, mean daily temperatures being slightly below normal during considerable of the period over the southern part of the district and slightly above normal over northeastern sections. Unseasonably cool weather prevailed on the 19th and 20th and from the 26th to the end of the month. On the 1st some unusually low temperatures were registered in the western portions of New York and Pennsylvania and in northeastern Ohio, freezing temperature being reached at Allegany, N. Y., and 40° at Brookville, Pa. Monthly minimum temperatures ranged between 44° and 60° as a rule in other sections and occurred during the other cool periods of the month.

The warmest weather as a rule occurred about the 14th–15th and 24th–25th. The highest temperature reached in the district was 101° at Haydensville, Ohio, on the 15th; also 100° was registered at two other stations in the district on the same day—one in Indiana and one in Kentucky. Other than these, maximum temperatures were in the 90's, except that 88° was the highest reached in northern Georgia and southwestern Virginia.

PRECIPITATION.

The average precipitation for the sections of 13 States comprised in this district ranged from practically normal for northern Georgia and southwestern Virginia to double the July normal for western Maryland, but rarely has any month of record exhibited such a variation in distribution of rainfall over these sections or such frequency in the occurrence of rain. There was really but one day on which showers did not occur either quite generally or else over considerable areas in each of the States. In all of the State sections, except western Maryland, although the rainfall generally was above normal and over much of the territory considerably above, there were limited areas where precipitation was deficient.

The rainfall at the various stations ranged between 1.64 inches at Forest Reserve, Ind., and 17.78 inches at Highlands, N. C. In each of the States there were stations and localities where from 5 to nearly 10 inches of rain were received during the month, and over large portions of the Monongahela and Cheat River Basins there were from 10 to 15 inches. The lightest rainfall as a rule occurred in the upper portions of the White and Wabash River Basins of Indiana, and in extreme southern Illinois and western Kentucky.

The heavy rains which fell over the southern portions of Indiana and Illinois and western Kentucky in the period 4th–7th caused floods in small rivers and creeks that overflowed bottom lands, ruining crops and doing many thousands of dollars damage to bridges, railroad tracks, wagon roads, and farm lands. Heavy hail attended some of the storms, doing considerable damage in many localities. On the 18th–19th heavy rains caused considerable damage to growing crops in river bottoms, and flooded small streams in West Virginia and western Pennsylvania.

Heavy rain on the 21st did vast damage in localities in Ohio, Indiana, and Kentucky. In Ohio many acres of wheat and oats were floated away by the high water in small streams. In Meade, Ballard, and Jefferson Counties Ky., excessive rains caused great damage to crops, roads, railroads, and bridges. In Meade County the heavy rains culminated in a regular cloudburst, and Otter Creek, in that county, became a raging torrent, sweeping away bridges, buildings, fences, and crops. The track and roadbed of the Louisville, Henderson & St. Louis Railway for 8 to 10 miles along the Ohio River were absolutely destroyed, also several large trestles and bridges were carried away. Traffic was entirely suspended over a large section of that road for a period of two weeks, due to landslides and the demolishing of the roadway by the storm. A passenger train which left Louisville at 9.20 p. m. on the Louisville, Henderson & St. Louis Railway was trapped on a trestle over Otter Creek by landslides in front and behind, and with the creek a raging torrent beneath them, a hundred or more persons aboard were held for nearly 12 hours before being rescued. Camping parties on Otter Creek had harrowing experiences and narrow escapes from drowning. The water rose so rapidly they were not able to get out of the locality and took refuge on the tops of wagons, where they were marooned for 15 hours. The town of Brandenberg suffered severely; stores and houses were flooded, besides extensive landslides did great damage. There was also much damage at West Point and other localities in that section, and the Lincoln Way suffered severely, many culverts and much of the roadway being washed out.

Excessive rains fell on the 24th–25th over considerable areas in the upper Ohio River Basin, and especially over the headwaters of several of the main tributaries. Floods were produced in the Youghiogheny and Monongahela Rivers and considerable property loss followed. The greater damage, however, resulted from the overflowing creeks and tributary small streams in Allegheny, Westmoreland, and Fayette Counties, Pa., where bridges were washed away and farm lands, mines, and small towns were flooded. Fourteen men were drowned in one and three in another of the mines of the Superba Coal Co., near Uniontown, Pa. In West Virginia, especially in the Monongahela and Cheat River Basins, roads were destroyed, bridges washed away, and crops ruined. In Ohio a great deal of damage similar in nature was done. In Lawrence County, between 75 and 100 bridges were wrecked or badly damaged, and the cost of repairs to roads and bridges in that county alone is estimated at $50,000.

Excessive 24-hour rainfalls were unusually numerous, and occurred in various parts of the district as shown in Table 2, Daily precipitation. The following are selected as exceptionally heavy: July 4, 5.53 inches at Flora and 4.50 inches at Fairfield, Ill.; 4.25 inches at Owensboro, Ky.; 3.50 inches at Huntington and 3.55 inches at Mount Vernon, Ind. July 7, 3.68 inches at Decatur, Ala. July 11, 3.03 inches at Highlands and 3 inches at Blantyre, N. C. July 13, 4.73 inches at Veedersburg, Ind.; 3.38 inches at Erasmus, and 3.25 inches at Palmetto, Tenn. July 17, 4.82 inches at Greensburg, Ind. July 18, 4.10 inches at Clarion, Pa. July 21, 3.49 inches at Hillsboro, 3.40 inches at Millport, and 3.74 inches at Wooster, Ohio. July 24, 3.10 inches at Clarington, Ohio; 3.92 inches at Elkins and 4.50 inches at Parsons, W. Va.; 4.13 inches at Deer Park and 4 inches at Oakland, Md., and 3.25 inches at California, Pa.

There were also some remarkably heavy falls in short periods, as 2.98 inches at Ironton in 2½ hours, and 3.10 inches at Clarington, Ohio, in less than one hour on the 24th; 1.04 inches in 15 minutes on the 2d and 2.15 inches in 60 minutes on the 9th at Indianapolis, Ind.

MISCELLANEOUS.

July 3.—Two churches were struck by lightning and a woman seriously injured at Columbus, Ohio.

July 4.—Two barns were struck by lightning and totally destroyed with their contents of hay and unthrashed wheat in Knox County, Ohio. A barn was destroyed by lightning in Sumner County, Tenn., and a number of head of stock killed in Todd County, Ky.

July 5.—A cloudburst caused great damage in Christian County, Ky. Three men were killed by lightning in Dickson County, Tenn.

July 7.—Heavy rains caused extensive damage to roads, railroads, and bridges along West Fork River in Tennessee; also several head of cattle were killed by lightning in Trousdale County of that State.

July 8.—Considerable damage was done by a wind, hail, and rain storm at Louisville, Ky.

July 9.—Lightning caused considerable damage in Indianapolis and several other places in Indiana. At Amboy, Ind., one man was killed and a companion injured.

July 10.—Two fatalities from lightning occurred at Pittsburgh, Pa.

July 11.—Two cows were killed by lightning and much damage was done to land and crops by a storm in Athens County, Ohio.

July 12.—Two boys were killed by lightning near Cadiz, Ky., and considerable damage was done in Fayette County, Ky., by a severe windstorm. The storm was especially destructive at Elmendorff Farm near Lexington, when a silo was blown down and many large trees prostrated.

July 13.—A severe wind and rainstorm swept over a large area in Indiana and Illinois, and extensive damage was done by wind, lightning, and floods of water in a number of counties in those States. A farmer was killed by lightning in Warren County, Ind., and two persons severely stunned in Westville, Ill.

July 15.—Lightning killed one person near Terre Haute, Ind., and caused the destruction of considerable property in Jennings and Rush Counties of that State.

July 16.—A farmer and two horses were killed by lightning near Richmond, Ky.

July 17.—Considerable loss resulted from lightning and wind in Perry, Stark, and Wayne Counties, Ohio.

July 18.—Wind and lightning caused considerable damage in Stark County, Ohio. A cloudburst in Montgomery County, Ky., flooded creeks and small streams, drowning thousands of chickens and turkeys, washing away much wheat and hay in lowlands, badly washing the tobacco crop on hillsides, and damaging roads. One man was drowned in the flood of a small stream.

July 21.—A severe thunderstorm did $25,000 damage in Louisville, Ky.; also thunderstorms caused $15,000

damage at Fort Wayne, Ind., when the gas plant was struck by lightning.

July 29.—Three deaths resulted from lightning at Saltsburg, Pa., when an oak tree under which the victims had taken shelter was struck.

July 31.—Sevier County, Tenn., was visited by an unusually severe hailstorm. The path of the storm was about 7 miles in width and extended in a southwest-northeast direction. Many of the hailstones were as large as goose eggs and ranged from that size down to the size of small marbles. The larger stones were irregular in shape and weighed as much as half a pound. Corn in the field was torn into shreds or beaten down flat. Fruit trees were riddled, and scarcely a house in the path of the storm escaped some damage.

A meteor of unusual size and brightness was seen by many persons in Louisville, Ky., about 9.48 p. m., July 8. It fell into the Ohio River, narrowly missing the Big Four bridge at that point. Observers describe it as moving from the western part of the heavens toward the eastern, cutting a semiarch, and leaving in its path varicolored tails. The lookout in the life-saving station, who had an excellent view of the meteor, states that it appeared to him that the meteor passed within a few hundred feet of the station, and that the river was lighted up in all directions as if by millions of electric lights.

A brilliant meteor was also observed at North Vernon, Ind., about 75 miles north by east of Louisville, at about the same time.

RIVERS AND FLOODS.

A flood of considerable magnitude occurred in the Monongahela River and small tributaries from the excessive rains of the 24th–25th in western Pennsylvania and West Virginia. The loss to property and crops destroyed, damage to farm land, and suspension of business is estimated at over a half million of dollars in the two States, besides the loss of 17 lives.

In the streams generally, large and small, a good flow of water for July was maintained during the entire month. Streams were unusually high in practically the whole of the Appalachian section from Pennsylvania to North Carolina. Floodings from local rainstorms were remarkably frequent and extensive. The Ohio and Tennessee Rivers, and the Cumberland River from Celina, Tenn., down, were navigable during the entire month.

TABLE 1.—*Climatological data for July, 1912. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	6	68.0	.....	94	8†	32	1	48	2.61	.....	0.50	0	14	5	17	9	nw.	Charles E. Whitney.
Bolivar	Allegany	1,800	18	67.6	+ 0.8	94	8†	33	1	48	6.31	+ 1.49	2.29	0	15	6	17	8	nw.	Charles F. Hoffman.
Olean	Cattaraugus	1,402	4	.....	.....	.....	.....	.....	.....	.....	3.52	.....	0.67	0	13	.....	.....	.....	e.	John W. Alles.
Pennsylvania.																				
Aleppo	Green	1,135	11	72.2	+ 0.2	92	15	48	27	32	8.04	+ 2.95	2.45	0	9	14	5	12	sw.	J. S. Hinerman.
Beaver Dam	Beaver	674	18	.....	.....	.....	.....	.....	.....	.....	6.11	+ 2.09	2.27	0	13	10	3	18	sw.	U. S. Engineer.
Brookville	Jefferson	1,173	21	68.4	.....	91	8†	40	1	42	6.93	+ 1.94	2.48	0	11	.....	.....	.....	w.	H. C. Bartholomew.
Clarion	Clarion	1,078	27	.....	.....	.....	.....	.....	.....	.....	8.45	+ 2.88	4.10	0	11	9	0	22	w.	J. A. Miller.
Claysville	Washington	1,127	8	73.4	.....	94	8†	49	27	34	8.95	.....	1.92	0	13	11	16	4	w.	E. T. Buchanan.
Confluence	Somerset	1,352	28	.....	.....	.....	.....	.....	.....	.....	8.20	+ 2.99	2.00	0	13	9	2	20	w.	Grant Pyle.
Franklin	Venango	955	38	71.2	0.0	96	10	48	1	34	5.11	+ 0.45	1.53	0	11	14	15	2	w.	F. E. Dixon.
Freeport	Armstrong	772	39	.....	.....	.....	.....	.....	.....	.....	6.79	+ 2.28	2.30	0	13	12	5	14	.....	Mrs. Anna R. Burtner.
Greensboro	Green	768	23	.....	.....	.....	.....	.....	.....	.....	8.56	+ 3.38	2.00	0	14	7	14	10	sw.	James G. Cramer.
Greenville	Mercer	950	16	69.9	− 0.6	94	15	46	27†	42	6.04	+ 0.90	1.41	0	13	19	8	4	nw.	A. M. Orr.
Indiana	Indiana	1,350	15	71.7	+ 1.2	93	8	48	28	32	8.75	+ 4.29	1.58	0	16	12	14	5	s.	R. W. Wehrle.
Johnstown	Cambria	1,184	24	71.9	− 1.4	94	14	50	26	34	8.82	+ 4.15	1.92	0	14	9	19	3	s.	E. C. Lorentz.
Lock No. 4	Washington	718	26	.....	.....	.....	.....	.....	.....	.....	8.50	+ 3.78	2.50	0	11	3	13	15	s.	R. T. McGowan.
Lycippus	Westmoreland	1,420	20	70.2	− 2.5	87	7	54	28	22	8.50	+ 3.36	2.02	0	11	.....	.....	.....	.....	Murray Forbes.
Pittsburgh	Allegheny	842	42	73.2	− 1.4	91	15	55	19	22	6.61	+ 2.19	2.40	0	10	7	16	8	sw.	U. S. Weather Bureau.
Saegerstown	Crawford	1,116	21	68.6	− 0.4	90	15	44	27	35	3.16	− 1.37	0.80	0	13	5	14	12	nw.	J. G. Apple.
Skidmore	Lawrence	1,000	8	69.6	.....	91	15	48	31	39	6.70	.....	2.50	0	7	24	1	6	sw.	W. H. Stoner.
Somerset	Somerset	2,250	56	68.1	− 0.5	91	15	47	28	32	6.86	+ 1.95	1.55	0	16	0	26	5	sw.	W. M. Schrock.
Uniontown	Fayette	999	24	73.6	+ 0.5	92	8	54	23	29	8.19	+ 2.52	2.29	0	11	2	11	18	sw.	Wm. Hunt.
Warren	Warren	1,137	23	69.0	− 0.4	91	8†	45	20	36	4.04	− 1.35	0.84	0	10	11	0	20	sw.	Anna Simpson.
Maryland.																				
Deer Park	Garrett	2,457	18	66.2	− 0.6	88	15	43	28†	35	10.66	+ 5.66	4.13	0	14	.....	.....	.....	.....	S. P. Specht.
Grantsville	....do	2,351	18	68.2	− 0.1	91	15	48	28	32	5.12	+ 0.21	1.95	0	9	.....	.....	.....	.....	J. S. Miller.
Oakland	....do	2,461	12	67.2	+ 0.6	88	15	46	28	33	12.54	+ 8.13	4.00	0	17	6	17	8	w.	R. E. Weber.
West Virginia.																				
Bancroft	Putnam	574	10	76.1	+ 0.5	97	4†	57	21	34	6.39	+ 1.67	1.93	0	13	13	0	18	ne.	R. E. Dent.
Beckley	Raleigh	2,440	12	71.6	+ 0.2	96	16	45	20	37	5.42	+ 1.69	1.52	0	8	11	12	8	w.	John A. Ewart.
Bens Run	Pleasants	622	10	75.2	0	94	15	54	21	25	5.48	+ 0.93	1.65	0	12	23	6	2	.....	J. D. Riggs.
Bluefield	Mercer	2,563	17	71.5	− 0.2	89	14	51	28	30	5.50	+ 1.27	1.20	0	15	7	18	6	.....	Norfolk & Western Ry.
Buckhannon	Upshur	1,472	21	72.3	− 0.2	92	15	50	28	34	9.27	+ 4.06	2.32	0	14	21[a]	7[a]	2[a]	.....	H. A. Darnall.
Cairo	Ritchie	667	10	74.4[f]	+ 0.2	93	9	55	20†	33[f]	7.10	+ 3.09	3.50	0	....	2[f]	18[f]	5[f]	.....	Van A. Zevely.
Central Station	Doddridge	900	11	73.6	+ 1.5	93	15	52	30	32	7.53	+ 3.44	2.19	0	14	3	21	7	w.	G. W. Sherwood.
Charleston	Kanawha	598	24	76.4	+ 0.2	94	14†	59	29	28	6.15	+ 2.26	1.78	0	17	13	14	4	w.	R. C. Hewes.
Creston	Wirt	612	11	73.5	+ 1.2	93	15	55	28†	29	6.50	+ 2.91	1.87	0	15	8	10	13	sw.	J. M. Reed.
Cuba	Jackson	544	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. T. Perry.
Doane	Wayne	.....	6	.....	.....	.....	.....	.....	.....	.....	7.39	.....	2.60	0	14	13	12	6	.....	L. A. Smith.
Elkhorn	McDowell	1,933	19	71.2	− 0.9	89	14	50	29	32	8.21	+ 2.92	1.10	0	14	15	9	7	w.	J. J. Lincoln.
Elkins	Randolph	1,940	13	70.4	0	91	14	50	28	31	10.61	+ 5.97	3.97	0	19	4	17	10	s.	U. S. Weather Bureau.
Fairmont	Marion	879	18	76.2	.....	99	15	54	30	36	5.89	+ 1.09	2.69	0	12	22	3	6	s.	F. P. Hall.
Glenville	Gilmer	738	22	76.6	+ 2.2	97	15	57	20†	32	12.93	+ 7.85	3.27	0	15	13	8	10	sw.	Joe N. Craddock.
Grafton	Taylor	985	18	74.4	+ 1.5	96	14†	52	20	34	7.14	+ 2.18	2.15	0	16	13	9	9	w.	Joseph Gerken.
Green Sulphur Springs	Summers	1,600	16	72.0[b]	− 0.5	90	14	52	28	31[b]	4.00	+ 0.41	1.26	0	14	8[b]	14[b]	7[b]	w.	Arthur George.
Hinton	....do	1,400	21	75.1	+ 0.8	94	14	57	28†	31	2.98	− 0.61	1.00	0	14	16	2	13	sw.	J. B. Lavender, C. E.
Holcomb	Nicholas	.....	1	70.0	.....	91	17	48	28	34	7.88	.....	.....	.....	14	12	2	17	.....	R. E. Ferguson.
Huntington	Cabell	510	17	76.1	− 0.4	94	15	59	28	28	6.90	+ 2.51	2.24	0	16	12	8	11	w.	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	11	71.2	− 0.2	91	14	48	28	34	3.64	− 0.22	1.39	0	7	24	6	1	nw.	Geo. T. Argabrite.
Logan	Logan	665	10	75.8[b]	+ 0.6	96	....	60	20†	26[b]	6.78	+ 0.60	.....	0	....	13[b]	7[b]	3[b]	se.	Dr. J. E. McDonald.
Lost Creek	Harrison	1,033	15	71.3	− 1.4	93	15	48	30	32	5.97	+ 1.13	2.10	0	10	18	6	7	sw.	Allen Smith.
Madison	Boone	704	8	76.2[g]	.....	93	14†	59	28	28[g]	6.52	.....	1.98	0	12	3[g]	20[g]	1[g]	.....	S. E. Bradley.
Mannington	Marion	967	11	72.6	− 0.2	93	15	53	20†	30	9.39	+ 4.49	3.26	0	14	19	2	10	w.	Jas. A. Morgan.
Marlinton	Pocahontas	2,169	17	69.4	0	90	16	48	28	34	2.67	− 2.61	0.60	0	12	12[a]	15[a]	3[a]	.....	C. J. McCarty.
Morgantown	Monongalia	1,250	36	74.1	+ 0.4	93	8†	54	30	30	11.17	+ 6.00	3.06	0	15	14	14	3	s.	Horace Atwood.
Moundsville	Marshall	640	10	75.4	+ 1.4	96	15	54	27	32	6.90	+ 2.43	1.88	0	12	13	7	11	sw.	M. L. Brown.
New Cumberland	Hancock	987	14	72.8	− 0.4	95	9	50	29	32	4.80	+ 0.29	2.60	0	6	9	13	9	s.	Frank S. Evans.
New Martinsville	Wetzel	634	18	76.4	+ 0.8	97	15	57	20†	30	5.63	+ 0.75	2.10	0	12	16	14	1	s.	Wm. Ankron.
Nuttallburg	Fayette	2,252	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Donna Tully.
Parkersburg	Wood	638	24	75.7	+ 0.1	94	15	59	30	25	8.07	+ 3.41	3.76	0	11	6	15	10	s.	U. S. Weather Bureau.
Parsons	Tucker	1,662	12	70.2	− 0.3	90	9†	46	19	32	14.02	+ 9.75	4.50	0	17	6	17	8	.....	J. W. Swisher.
Philippi	Barbour	1,192	18	73.6	+ 1.0	97	12	52	20†	39	6.99	+ 1.89	1.50	0	16	8	15	8	w.	J. D. Dadisman.
Pickens	Randolph	2,785	20	67.3	− 1.8	84	14†	50	28	26	11.00	+ 4.82	2.86	0	16	15	9	7	w.	Dr. J. L. Cunningham.
Point Pleasant	Mason	533	21	76.3	− 0.3	96	15	56	27	31	9.87	+ 5.94	2.14	0	15	14	4	13	se.	W. D. Holmes.
Powellton	Fayette	904	14	74.4	+ 0.3	96	25	55	20†	35	7.59	+ 3.22	1.60	0	17	10	20	1	.....	Morris Hansford.
Princeton	Mercer	2,469	10	67.0	− 1.1	81	16	50	28	26	7.40	+ 1.36	2.50	0	13	11	18	2	w.	H. Scott.
Robertsburg	Putnam	574	11	75.0	− 0.8	96	15	57	20	32	9.21	+ 5.47	2.96	0	13	12	1	18	.....	E. P. Turley.
Ryan	Roane	639	10	73.0	+ 0.2	93	14†	52	20	32	7.89	+ 3.37	1.97	0	15	6	17	8	.....	Wm. E. Ryan.
Smithfield	Wetzel	919	8	71.2	.....	88	14†	53	30	25	7.01	.....	3.01	0	11	14	12	5	ne.	G. M. Whisler.
Spencer	Roane	710	13	72.8	.....	93	15	46	27	34	7.87	+ 3.73	2.30	0	15	1	26	4	.....	A. M. McKown.
Sutton	Braxton	839	10	76.2	.....	96	14	56	29	35	7.23	+ 2.72	2.50	0	7	13	11	7	.....	J. E. Baughman.
Terra Alta	Preston	3,207	12	66.6	− 2.5	85	17	49	28†	28	6.69	+ 0.78	2.00	0	9	14	9	8	w.	W. B. Elliott.
Union	Monroe	.....	9	70.4	.....	91	14	46	29	37	4.94	.....	1.50	0	9	.....	.....	.....	.....	Shelton Clark.
Valley Fork	Clay	.....	9	73.4	.....	95	16	51	28	34	11.39	.....	2.05	0	10	6	24	1	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	7	72.2	.....	90	14	53	28	30	12.89	.....	2.25	0	19	8	11	12	.....	D. H. Hamrick.
Weilsburg	Brooke	1,225	'12	71.8	− 0.1	90	15	55	27	21	8.42	+ 4.12	2.31	0	11	6	22	3	sw.	C. P. Waugh.
Weston	Lewis	824	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss C. M. Davis.
Wheeling	Ohio	645	26	75.3	.....	97	8	53	30	31	5.71	+ 1.01	1.97	0	13	17	6	8	s.	Miss M. B. Forsyth.
Williamson	Mingo	660	11	75.6	− 0.3	94	15	60	28	30	9.80	+ 5.85	2.14	0	16	15	12	4	w.	J. F. Keyser.
Ohio.																				
Amesville	Athens	630	8	76.1	.....	95	7†	54	30†	33	5.15	.....	1.85	0	9	16	15	0	.....	F. W. Gibson.
Bangorville	Richland	1,380	25	72.0	− 0.5	91	14	52	19	27	7.20	+ 2.96	2.03	0	13	1	29	1	sw.	S. M. Painter.
Bellefontaine	Logan	1,276	33	73.0	− 0.7	93	24	52	19†	28	4.89	+ 0.56	1.38	0	12	15	1	15	s.	Cory L. Lane.
Bladensburg	Knox	1,100	21	71.4[b]	− 0.1	90[b]	24	50[b]	19	29[b]	2.90	− 1.28	0.90	0	9	.....	.....	.....	sw.	Miss Mary Elliott.
Cadiz	Harrison	1,245	9	73.7	.....	95	15	53	19	30	5.86	.....	2.81	0	10	9	15	7	sw.	Harry B. McConnell.
Cambridge	Guernsey	803	20	72.4	− 0.2	91	24	50	27	30	3.27	− 1.61	1.18	0	9	3	28	0	.....	Samuel Mehaffey.

TABLE 1.—*Climatological data for July, 1912. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Ohio*—Continued.**																				
Camp Dennison	Hamilton	570	19	76.6	0.0	97	14	57	30	30	5.48	+ 1.88	1.66	0	11	13	17	1	sw.	Henry F. Pinkvoss.
Canal Dover	Tuscarawas	884	19	73.2	+ 0.2	92	14	52a	19	28	5.98	+ 1.31	2.14	0	9	2	25	4	sw.	Ed. S. Slingluff.
Canton	Stark	1,089	29	72.6	+ 0.4	92	8†	50	19†	32	8.02	+ 3.25	2.50	0	15	15	5	11	sw.	Carl H. Meyer.
Cardington	Morrow	1,010	17	73.6	+ 1.6	100	8	55	19	34	4.04	− 0.20	1.20	0	13	13	0	18	sw.	J. W. Shaw.
Chillicothe	Ross	630	9	.....	.....	.....	.....	.....	.....	.....	5.39	.....	2.63	0	7	.....	.....	.....	.....	Marion Mackey.
Cincinnati	Hamilton	628	41	77.4	− 0.3	96	24	59	19	23	5.11	+ 1.57	2.56	0	12	4	20	7	se.	U. S. Weather Bureau.
Circleville	Pickaway	694	24	75.6	+ 0.3	96	14	55	19	29	6.04	+ 2.10	1.65	0	13	7	13	11	s.	Dr. H. R. Clarke.
Clarington	Monroe	600	9	73.2	.....	92	8†	52	27†	34	7.00	.....	3.10	0	13	2	16	13	sw.	Col. S. Tschappat.
Columbus	Franklin	918	34	74.9	− 0.4	95	15	56	19	26	3.50	− 0.15	0.83	0	13	3	14	14	s.	U. S. Weather Bureau.
Coshocton	Coshocton	770	3	.....	.....	.....	.....	.....	.....	.....	5.45	.....	1.01	0	19	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton (1)	Montgomery	899	....	74.9	− 1.1	94	24	56	19	25	3.35	+ 0.07	1.00	0	10	0	14	17	sw.	U. S. Weather Bureau.
Dayton (2)	....do	790	31	75.4	− 0.8	96	24	54	19	28	4.82	+ 1.57	0.83	0	12	.....	.....	.....	.....	Mrs. Edith E. L. Boyer.
Delaware	Delaware	896	15	74.6	+ 0.8	96	24	53	18	32	4.23	− 0.13	1.68	0	11	10	18	3	w.	De Witt H. Leas.
Demos	Belmont	1,325	24	74.2	+ 1.3	95	14†	54	19	29	5.58	+ 0.99	2.38	0	12	18	9	4	s.	J. T. Dysart.
Dennison	Tuscarawas	846	2	75.0	.....	95	14†	53	19†	35	4.16	.....	1.32	0	8	12	18	1	s.	Water Supply Co.
Frankfort	Ross	745	20	75.8	+ 1.2	95	14†	55	19	28	5.90	+ 2.68	1.75	0	12	16	7	8	s.	O. A. Cory.
Gallipolis	Gallia	580	.....	.....	.....	.....	.....	.....	.....	.....	7.70	.....	2.33	0	14	.....	.....	.....	.....	Samuel F. Neal.
Garrettsville	Portage	1,005	28	70.2	+ 0.3	90	7†	46	27	32	5.21	+ 1.27	2.08	0	15	5	19	7	nw.	S. M. Luther.
Granville	Licking	960	30	74.2	+ 0.9	94	15	52	19	30	5.48	+ 1.63	1.16	0	12	15	3	13	sw.	Dr. L. E. Davis.
Gratiot	....do	1,000	23	72.9	+ 0.1	91	15	54	19	29	5.86	+ 1.10	1.64	0	12	1	29	1	sw.	W. B. Longstreth.
Green	Adams	500	19	76.2	+ 0.5	93	14†	58	19†	26	7.98	+ 3.62	1.95	0	14	10	21	0	sw.	W. F. Kenyon.
Green Hill	Columbiana	1,135	19	69.8	− 0.9	89	8†	48	27	30	5.83	+ 1.47	3.33	0	9	6	23	2	sw.	Jos. E. Bentley.
Greenville	Darke	1,060	26	73.6	+ 0.1	92	24	56	19	27	5.06	+ 2.32	1.25	0	13	5	12	14	s.	Geo. A. Katzenberger.
Hamilton	Butler	601	.....	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.62	0	10	8	12	11	.....	Earl W. Stout.
Haydenville	Hocking	700	....	74.9e	.....	101e	15	51e	19	37e	5.30	.....	1.64	0	10	.....	.....	.....	sw.	H. W. Stiers.
Hillsboro	Highland	1,063	33	75.4	+ 0.4	93	24	56	19	29	9.32	+ 5.18	3.49	0	10	6	17	8	sw.	Carey H. Roush.
Ironton	Lawrence	575	29	77.0	+ 2.4	97	14	58	20	32	6.90	+ 2.69	2.98	0	12	15	15	1	se.	James Bull.
Kenton	Hardin	1,015	20	73.7b	+ 0.3	92b	15	50b	18	37b	5.40	+ 1.85	1.55	0	13	6	22	3	s.	N. S. Martin.
Killbuck	Holmes	1,087	19	72.2	− 0.7	90	5†	51	16	30	7.33	+ 2.75	2.25	0	10	21	7	3	se.	Lloyd C. Schonauer.
Lancaster	Fairfield	898	17	74.4	+ 1.2	92	15	55	19	25	4.27	− 0.13	1.10	0	13	15	10	6	sw.	R. L. Renshaw.
McConnelsville	Morgan	710	28	74.0	+ 0.3	92	15	51	19	30	7.47	+ 3.12	2.48	0	11	4	13	14	s.	C. H. Morris.
Marietta	Washington	627	92	76.4	+ 2.5	95	8	57	19†	28	5.98	+ 1.35	1.37	0	12	6	16	9	s.	Prof. T. D. Biscoe.
Marion	Marion	980	34	75.0a	+ 1.1	94	14	54b	19	33b	7.41	+ 3.03	1.30	0	13	2	20	9	sw.	Dr. E. H. Raffensperger.
Milfordton	Knox	1,200	20	72.4	0.0	93	24	53	27	33	5.10	+ 0.96	1.03	0	11	16	12	3	sw.	L. H. Burgess.
Milligan	Perry	1,130	19	73.6	+ 0.2	93	15†	52	27	30	8.72	+ 4.70	1.80	0	11	6	25	0	sw.	V. C. Eveland.
Millport	Columbiana	1,145	19	70.7	− 0.7	90	8	52	28	29	6.35	+ 2.07	3.40	0	7	3	27	1	sw.	G. F. Copeland.
Nellie	Coshocton	850	12	72.8	− 0.4	93	24	50	27	38	7.49	+ 3.55	2.10	0	9	5	21	5	sw.	Ethel L. Gammertsfelder.
New Alexandria	Jefferson	1,050	27	73.6	+ 0.4	96	8	50	30	33	6.21	+ 1.43	2.00	0	7	16	7	8	w.	Mrs. Mary K. Penneli.
New Berlin	Stark	1,100	19	70.5	− 2.7	90	5†	50	19†	30	5.65	+ 1.38	2.05	0	13	17	11	3	n.	Clayton Holl.
New Waterford	Columbiana	1,053	17	70.8	− 0.8	91	7†	42	19	32	6.71	+ 2.03	2.25	0	7	16	12	3	sw.	Sam. C. Scott.
O. S. University	Franklin	757	29	74.6	+ 1.1	93	15†	56	19	25	5.41	+ 2.21	1.27	0	12	6	16	9	s.	Prof. H. C. Lord.
Pataskala	Licking	1,015	20	73.6	− 0.3	94	15	53	19	28	4.42	+ 0.30	1.40	0	13	0	30	1	sw.	J. N. Ridenour.
Peebles	Adams	645	1	74.8	.....	96	15	55	28†	33	9.66	.....	1.29	0	16	8	19	4	nw.	Ora O. Smalley.
Philo	Muskingum	1,018	17	73.1	− 1.5	93	15	54	19†	25	3.07	− 1.57	0.84	0	8	4	24	3	s.	L. C. Burckholter.
Piqua	Miami	847	2	.....	.....	.....	.....	.....	.....	.....	7.01	.....	2.29	0	16	14	6	11	se.	Harry L. Roberts.
Plattsburg	Clark	1,130	19	73.8	− 0.2	91	24	53	19	27	1.93	− 2.21	1.13	0	4	5	23	3	sw.	F. E. Stewart.
Portsmouth	Scioto	527	81	76.6	− 0.1	94	14	60	19†	26	5.36	+ 1.33	1.40	0	15	7	4	20	sw.	Dr. H. A. Schirrmann.
Prospect	Marion	909	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Neil J. Gast.
Shenandoah	Richland	1,100	20	70.9	− 1.1	89	5†	50	31	29	6.65	+ 2.12	2.09	0	12	1	27	3	sw.	T. B. Arnett.
Sidney	Shelby	985	29	73.7	− 1.3	95	24	52	19	29	5.65	+ 2.01	1.62	0	14	9	12	10	sw.	Hamline B. Blake.
Somerset	Perry	1,080	13	74.8	− 0.1	93	8†	54	19	28	4.40	+ 0.39	0.87	0	13	14	13	4	s.	Miss M. W. C. Sheridan.
Springfield	Clark	980	18	.....	.....	.....	.....	.....	.....	.....	3.31	− 1.21	1.02	0	12	2	26	3	s.	W. A. Webster.
Summerfield	Noble	1,187	6	73.3	.....	92	8†	50	27	32	7.35	.....	2.00	0	13	7	18	6	sw.	H. R. McClintock.
Syracuse	Meigs	583	1	75.0	.....	96	14	56	29†	30	8.97	.....	2.10	0	12	14	5	12	w.	Irving R. Karr.
Thurman	Gallia	696	19	74.6	− 1.5	92	15	58	19	24	6.60	+ 2.92	1.90	0	9	8	14	9	.....	D. D. Thomas.
Urbana	Champaign	1,031	44	74.2	+ 0.8	96	24	52	19	29	3.48	− 0.93	0.93	0	9	7	23	1	s.	Prof. J. H. Williams.
Warren	Trumbull	900	23	72.7	+ 0.3	95	7	48	27	34	6.71	+ 2.34	2.78	0	9	14	6	11	sw.	M. D. McCorkle.
Waverly	Pike	590	29	74.8	− 1.0	92	24	58	19†	28	9.23	+ 5.45	2.26	0	15	6	3	22	s.	Dr. Peru Hutt.
Waynesville	Warren	700	27	73.8b	− 0.1	92b	24	55b	19	27b	4.53	+ 2.04	2.40	0	10	8	19	4	w.	Charles Michener.
Wooster	Wayne	1,030	33	71.6	+ 0.2	90	14†	51	19	29	7.46	+ 2.91	3.74	0	12	13	14	4	sw.	Experiment Station.
Youngstown	Mahoning	846	19	.....	.....	.....	.....	.....	.....	.....	4.67	+ 1.06	1.62	0	13	16	3	12	sw.	G. R. Patton.
Zanesville	Muskingum	700	25	.....	.....	.....	.....	.....	.....	.....	4.58	+ 0.23	1.35	0	12	22	2	7	s.	S. G. Sprague.
Indiana.																				
Anderson	Madison	892	17	74.4	+ 0.1	92	24	56	19	28	5.67	+ 2.12	1.90	0	13	16	11	4	w.	W. H. Staunton.
Attica	Fountain	522	2	.....	.....	.....	.....	.....	.....	.....	5.99	.....	2.24	0	10	.....	.....	.....	.....	Robt. E. Ray.
Bloomington	Monroe	744	17	75.0	− 1.3	93	15	57	27	28	8.18	+ 4.33	2.20	0	16	11	9	11	se.	Earl E. Ramsey.
Bluffton	Wells	835	17	75.2	+ 1.3	94	14†	53	19	31	3.38	− 0.16	2.04	0	12	7	24	0	s.	Tom R. Johnston.
Butlerville	Jennings	767	27	76.3	+ 0.4	94	14†	57	19	27	5.83	+ 2.25	2.11	0	12	10	16	5	.....	C. F. Hole.
Cambridge City	Wayne	941	21	74.0	+ 0.4	94	15†	54	30	31	4.39	+ 0.79	1.96	0	15	15	0	16	s.	Heze Barnett.
Columbus	Bartholomew	632	29	75.2	− 0.2	94	15	55	19	31	5.95	+ 2.88	1.19	0	17	17	4	10	sw.	John A. Perry.
Connersville	Fayette	769	30	76.8	+ 2.5	98	15	54	19	35	2.62	− 0.69	0.73	0	8	4	25	2	sw.	H. T. Swindler.
Crawfordsville	Montgomery	780	2	76.0	.....	96	24	53	19	32	2.78	.....	0.65	0	8	6	18	7	s.	P. H. Burns.
Delphi	Carroll	668	27	74.9	+ 0.6	95	24	54	19†	31	2.50	− 1.29	0.70	0	12	4	13	14	.....	L. A. Higginbotham.
Eminence	Morgan	782	6	73.4	.....	91	23	52	31	32	5.06	.....	1.35	0	12	12	16	3	sw.	E. E. Kelso, M. D.
Evansville	Vanderberg	386	36	78.4	− 0.9	94	15	64	27	22	5.30	+ 1.49	2.66	0	16	6	24	1	s.	U. S. Weather Bureau.
Farmersburg	Sullivan	.....	14	75.2	− 0.8	92	15†	57	27	26	4.70	+ 0.45	1.29	0	12	3	26	2	se.	Miss Carrie Yeager.
Farmland	Randolph	1,101	30	72.6	− 0.8	90	15†	56	19	26	7.27	+ 3.86	1.50	0	15	11	4	16	nw.	W. J. Davisson.
Forest Reserve	Clark	478	.....	.....	.....	.....	.....	.....	.....	.....	1.64	.....	0.92	0	8	.....	.....	.....	.....	Ambrose Waltman.
Greenfield	Hancock	905	9	74.4	.....	91	15†	56	19	26	5.59	.....	2.65	0	14	0	27	4	sw.	Frank Larrabee.
Greensburg	Decatur	954	16	73.6	− 2.0	92	14†	56	19	25	8.18	+ 3.82	4.82	0	10	15	13	3	sw.	C. C. Morrison, M. D.
Hickory Hill	Brown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huntingburg	Dubois	462	4	74.0	.....	95	13†	51	18	39	8.92	.....	3.50	0	10	.....	.....	.....	.....	H. Dufendach.
Huntington	Huntington	741	19	74.3	+ 0.1	93	15†	54	19	32	3.64	0.00	1.66	0	7	8	17	16	sw.	Chas. McGrew.
Indianapolis	Marion	822	41	74.4	− 1.8	93	24	58	19	25	6.75	+ 2.62	2.68	0	15	0	22	9	sw.	Section Center.
Jeffersonville	Clark	455	30	78.2	+ 0.4	95	14	61	20	28	3.95	+ 0.01	1.32	0	16	13	15	3	s.	John C. Loomis.
Judyville	Warren	450	5	73.4a	.....	94a	24	49a	15	41a	5.65	.....	1.42	0	8	9a	12a	9a	s.	Dale R. Warrick.
Kokomo	Howard	840	20	73.7	− 0.9	92	24	54	19†	29	3.53	+ 0.08	1.53	0	8	5	24	2	sw.	P. H. Robertson.
La Fayette	Tippecanoe	617	33	74.4	− 0.1	94	24	55	27	29	4.22	+ 0.43	1.39	0	14	16	6	9	sw.	Wm. J. Jones, jr.
Laurel	Franklin	.....	1	74.2	.....	98	23	54	19	39	3.70	.....	1.53	0	12	10	20	1	sw.	Paul Schultze.
Logansport	Cass	620	32	76.3	+ 0.9	96	14†	55	19†	31	4.36	+ 1.07	1.75	0	9	13	6	12	e.	Chas. Massena.
Madison	Jefferson	460	20	78.4	+ 0.8	97	14	60	30	30	6.23	+ 2.64	1.91	0	14	11	19	1	sw.	Miss F. Cooperider.
Marengo	Crawford	363	30	75.6	− 0.6	93	15†	56	20†	33	4.16	− 0.11	1.01	0	10	10	17	4	sw.	J. M. Johnson.
Marion	Grant	814	26	74.8	+ 0.7	95	24	55	19†	28	3.26	+ 0.21	0.76	0	14	14	6	11	s.	James F. Hood.

TABLE 1.—*Climatological data for July, 1912. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Indiana*—Continued.**																			
Maury	Rush	980	32	73.8	+ 0.3	92	15†	53	19†	30	4.10	+ 0.86	1.00	0	13	6	15	10	sw.	Elwood Kirkwood.
Monticello	White	674	2								4.90		2.12	0	8	11	11	9	s.	J. E. Loughry.
Moores Hill	Dearborn	980	11	75.4	+ 0.5	93	14†	56	19	28	3.74	+ 0.84	1.20	0	10	14	9	8	sw.	W. S. Bigney.
Mount Vernon	Posey	410	26	78.4	− 0.2	95	15†	61	31	29	7.66	+ 3.35	3.55	0	11	19	1	11	sw.	Guy B. Green.
Nashville	Brown			75.0		95	15	54	16	32	6.18		2.05	0	11	8	13	10	s.	W. C. Goble.
Paoli	Orange	611	15	77.1	+ 0.4	95	15	57	20†	34	4.01	+ 0.60	1.12	0	14	6	22	3	sw.	James A. Gillum.
Princeton	Gibson	481	30	78.4[e]	+ 1.3	95	15†	59[f]	27	33[f]	4.37	+ 0.98	1.70	0	8	15	8	8	sw.	Albert Mills.
Richmond	Wayne	972	27	73.5	− 0.3	94	15	53	30	28	3.01	− 0.66	0.82	0	15	3	25	3	.....	Walter Vossler.
Rochester	Fulton	775	7	75.0	.....	93	5	53	27	28	4.14	.....	2.25	0	8	12	9	10	.....	G. P. Keith.
Rockville	Parke	722	26	75.3	+ 0.6	97	24	54	27	32	5.79	+ 2.06	2.01	0	7	3	24	4	s.	C. A. Lee.
Rome	Perry	370	9	77.8	.....	100	15	61	20†	34	6.29	.....	2.59	0	11	19	4	8	sw.	Adam Anspach.
Salamonia	Jay	950	7	73.0	.....	92	24	53	19†	29	7.44	.....	1.40	0	17	10	17	4	sw.	S. A. Armstrong.
Salem	Washington	717	19	76.2	− 0.5	95	14	57	30	33	3.71	+ 0.34	1.00	0	13	3	25	3	sw.	Emmet S. Allen.
Scottsburg	Scott	570	18	77.4[e]	− 0.2	95[e]	14†	60[e]	24†	35[e]	2.67	− 1.08	0.84	0	....	6[f]	17[f]	2[f]	sw.	Frank H. Park.
Seymour	Jackson	610	25	77.6	+ 1.5	97	15	56	19	34	2.74	− 0.90	1.40	0	12	5	25	1	sw.	J. Robt. Blair.
Shelbyville	Shelby	768	8	75.6	.....	92	24	56	19	27	6.11	.....	2.29	0	16	4	25	2	sw.	Edgar G. Hodson.
Shoals	Martin	523	5								8.87		2.20	0	11	.....	.....	.....	.....	Rev. G. Halleck Rowe.
Terre Haute	Vigo	498	22	76.2	− 1.2	96	13	57	19†	25	7.29	+ 3.93	2.48	0	12	11	9	11	sw.	Prof. R. G. Gillum.
Veedersburg	Fountain	612	13	75.2	+ 0.2	96	24	55	19†	29	8.19	+ 4.72	4.73	0	12	21	9	1	s.	L. A. Culver, jr.
Vevay	Switzerland	525	31	78.9	+ 1.7	98	24	63	19†	25	4.16	+ 0.05	1.30	0	14	3	19	9	se.	Miss Frederica Boerner.
Vincennes	Knox	431	20	77.8	− 0.3	98	15	60	27	29	5.23	+ 0.88	2.30	0	8	15	5	11	s.	Garrett V. List.
Washington	Daviess	484	16	76.8	− 0.2	95	15	59	27	28	5.99	+ 2.07	2.18	0	16	12	12	7	sw.	Charles C. Feagans.
Whitestown	Boone	529	4	74.1	.....	95	15	58	19†	29	4.78	.....	0.72	0	16	2	28	1	sw.	Clyde O. Laughner.
Winona Lake	Kosciusko	865	5	73.0	.....	91	6†	51	19	20	5.82	.....	2.14	0	11	1	27	3	nw.	Rev. Albert A. Young.
Worthington	Greene	526	30	76.2	+ 1.0	95	15	58	27	26	6.39	+ 2.35	1.60	0	16	7	20	4	se.	D. W. Solliday.
Illinois.																				
Albion	Edwards	531	21	78.8	+ 0.6	98	14	60	20†	33	5.21	+ 1.19	1.11	0	12	12	15	4	s.	B. F. Michels.
Carmi	White	399	1																.....	Daniel Berry.
Casey	Clark	645	9								6.86		1.56	0	14	13	13	5	.....	William Chenoweth.
Charleston	Coles	720	27	75.8	− 0.5	95	24	55	27	28	6.36	+ 2.38	2.25	0	11	7	19	5	s.	Jacob B. Daisy.
Danville	Vermilion	604	11	75.5	− 0.8	96	24	55	27	30	5.10	+ 1.98	1.31	0	11	15	9	7	se.	J. J. Lemon.
Equality	Gallatin	421	14	79.3	+ 0.6	96	15†	62	27	26	5.93	+ 1.15	1.75	0	13	16	15	0	s.	Dr. L. W. Gordon.
Fairfield	Wayne	450	19	78.4	+ 0.7	96	14†	59	27	30	7.41	+ 3.53	4.50	0	14	9	18	4	nw.	George A. Tromly.
Flora	Clay	495	26	78.0	+ 1.4	95	15†	59	27	31	9.53	+ 4.94	5.33	0	13	13	10	8	sw.	W. L. Hanna.
Golconda	Pope	500	34	80.0	+ 1.4	96	14†	62	28	32	7.14	+ 3.38	2.08	0	6	5	14	12	sw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	10	73.4	− 0.4	90	9†	55[a]	18†	27[a]	6.62	+ 2.24	2.32	0	14	17	12	2	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	29	78.5	+ 0.8	97	14	61	27†	32	6.76	+ 3.47	2.56	0	13	13	13	5	sw.	Prof. W. C. Fairweather.
Metropolis	Massac	346	1								2.50		0.90	0	7	.....	.....	.....	.....	John Barfield.
Montrose	Effingham	599	2	76.6	.....	94	15	57	19	29	8.65	.....	2.41	0	14	6	23	2	sw.	J. C. Spitler.
Mount Carmel	Wabash	424	11	75.1	− 1.7	95	14†	60	27	27	4.28	+ 1.05	2.50	0	11	.....	.....	.....	.....	Mrs. H. M. Phillips.
New Burnside	Johnson	613	17	77.8	− 0.9	96	24	57	27	31	3.14	− 1.29	1.35	0	8	21	2	8	s.	Thos. H. McCabe.
Newton	Jasper	484	1								4.65		0.85	0	13	17	13	1	.....	J. M. Hicks.
Olney	Richland	486	25	78.4	+ 0.6	96	14†	58	27	28	4.64	+ 0.87	1.63	0	11	2	19	10	sw.	Victor E. Phillips.
Palestine	Crawford	500	30	76.8	+ 0.4	94	15	60	19†	26	6.83	+ 2.90	1.60	0	11	15	11	5	s.	Duane Shaw.
Paris	Edgar	600	19	74.4	− 1.4	94	24	54	27	32	8.56	+ 5.05	2.05	0	10	3	25	3	sw.	H. P. Twyman.
Philo	Champaign	700	28	74.4	− 0.2	96	24	54	27	31	3.24	− 0.58	1.12	0	7	10	19	2	s.	H. A. Burr.
Rantoul	Champaign	768	21	73.2	− 2.3	93	24	49	19†	35	5.40	+ 1.56	2.23	0	12	16	6	9	ne.	William Breiner.
Rileyville	Saline	400	15																	W. H. Thornberry.
Shawneetown	Gallatin	307	2								3.67	.....	1.20	0	11	.....	.....	.....	.....	Mrs. Mary O. Spivey.
Tuscola	Douglas	644	19																	Joseph O'Neal.
Urbana	Champaign	725	10	74.2	+ 0.5	94	24	55[a]	27	26[a]	3.68	− 0.10	1.62	0	9	3	21	7	s.	Prof. J. G. Mosier.
Kentucky.																				
Alpha	Clinton	.....	18	75.0	− 1.6	88	14†	59	27	22	3.35	− 2.64	0.60	0	12	9	7	15	s.	W. W. Hicks.
Anchorage	Jefferson	700	11	75.2	− 0.9	94	14	58	27†	31	5.68	+ 0.88	1.92	0	13	12[a]	16[a]	2[a]	sw.	C. E. Barrett.
Bardstown	Nelson	637	15	78.3	+ 0.1	97	15	60	28	31	5.47	+ 0.48	1.43	0	13	14	12	5	s.	T. S. Talbott.
Beattyville	Lee	650	8	75.8	.....	97	14	56	28	32	5.72	+ 0.32	1.52	0	13	7	10	14	e.	G. W. Cann.
Beaver Dam	Ohio	441	9	78.4	+ 1.2	95	15†	60	27	29	5.40	+ 0.35	1.25	0	10	6	15	10	s.	W. T. Austin.
Berea	Madison	1,070	11	76.6	+ 0.4	95	15	54	28	33	4.45	− 0.10	1.32	0	15	18	11	2	sw.	C. F. Rumold.
Blandville	Ballard	445	31	78.0	+ 0.1	93	15	64	27†	25	1.84	− 2.05	1.09	0	8	9	17	5	s.	E. W. Horr.
Bowling Green	Warren	500	23	78.0	− 1.0	97	15	61	27†	32	5.83	+ 1.49	2.00	0	8	15	5	11	s.	Mrs. L. G. Causey.
Burnside	Pulaski	773	21								8.76	+ 3.83	1.82	0	14	.....	.....	.....	n.	G. M. Estes.
Calhoun	McLean	397	9	78.6	+ 1.6	95	15	63	20†	28	5.52	+ 0.10	2.10	0	12	5	24	2	sw.	W. A. Taylor.
Catlettsburg	Boyd	544	23								8.28	+ 4.18	2.58	0	14	.....	.....	.....	.....	Mrs. Mertie M. Bruns.
Earlington	Hopkins	370	22	79.4	+ 1.5	98	15	59	27	35	3.95	− 0.35	1.14	0	10	20	3	8	nw.	Brick Southworth.
Edmonton	Metcalfe	600	21	76.2	+ 0.5	93	14†	54	31	32	6.01	+ 1.02	2.40	0	19	7	14	10	.....	Miss Lee Ray.
Eubank	Pulaski	1,177	18	74.4	− 0.3	91	15	54	28	30	6.34	+ 1.71	2.10	0	12	10	5	16	s.	Mrs. Katie Payne.
Falmouth	Pendleton	530	23								4.09	+ 0.18	1.03	0	11	15	10	6	s.	J. V. Oldham.
Farmers	Rowan	668	6	75.5	.....	97	15	55	20†	37	6.00	.....	2.70	0	8	16	0	15	.....	Miss Gertrude Sorrell.
Frankfort	Franklin	560	21	78.0	+ 1.6	98	14	60	20	31	5.41	+ 1.44	1.65	0	15	10	12	9	s.	J. H. Roberts.
Franklin	Simpson	691	18	77.8	+ 0.3	95	14	60	27	30	5.50	+ 1.39	1.76	0	11	0	31	0	sw.	J. E. Newman.
Greensburg	Green	581	20	75.8	− 0.6	96	14†	57	27	32	6.49	+ 1.80	1.53	0	12	8	0	23	e.	L. C. Alcorn.
High Bridge	Jessamine	762	9								7.06	+ 2.52	1.64	0	12	.....	.....	.....	.....	Miss Lulu Wood.
Hopkinsville	Christian	524	16	79.6	+ 1.1	100	15	61	28	34	7.61	+ 3.30	1.50	0	13	15	5	11	e.	W. F. Randle.
Irvington	Breckenridge		14	76.8	− 0.3	93	15	60	20	28	5.47	+ 2.04	1.61	0	7	16	3	12	sw.	W. J. Piggott.
Leitchfield	Grayson	635	16	76.2	− 0.2	92	15	61	27	23	4.79	+ 0.27	.....	0	....	16	13	2	sw.	John E. Stone.
Lexington	Fayette	989	24	75.3	− 1.3	93	15	60	20	27	4.70	+ 0.26	1.77	0	11	5	11	15	sw.	U. S. Weather Bureau.
Loretto	Marion	681	15	76.0[e]	− 0.2	95	15	56	28	28	5.80	+ 1.64	1.74	0	12	20[b]	7[b]	2[b]	.....	Loretto Academy.
Louisville	Jefferson	525	40	78.8	+ 0.2	95	14	62	19	26	4.68	+ 0.94	1.33	0	14	8	14	9	sw.	U. S. Weather Bureau.
Marion	Crittenden		17	78.0	+ 0.2	94	15	62	20†	26	2.24	− 1.75	0.57	0	7	14	8	9	sw.	B. C. Paris.
Maysville	Mason	524	15	76.8	− 0.2	98	15	56	20	37	5.67	+ 1.16	0.98	0	17	18	4	9	se.	Mrs. Mary D. Marsh.
Middlesboro	Bell	1,128	17	75.7	+ 1.2	91	14†	58	27	27	5.25	− 0.63	1.45	0	15	17	14	0	.....	B. H. Perkins.
Mount Sterling	Montgomery	930	22	76.4	− 0.8	96	15	59	20	31	8.84	+ 3.83	1.90	0	15	12	16	3	s.	James O'Connell.
Owensboro	Daviess	479	15	77.6	− 0.2	92	15†	63	20†	25	6.62	+ 2.49	4.25	0	11	15[a]	3[a]	12[a]	se.	Henry S. Berry.
Paducah	McCracken	341	23								4.76	+ 0.82	1.30	0	10	.....	.....	.....	s.	S. A. Fowler.
Pikeville	Pike		4								6.50		1.70	0	16	.....	.....	.....	.....	I. M. Williams.
Richmond	Madison	926	20	77.0	+ 0.4	94	15	60	27	28	3.64	− 0.09	1.58	0	14	13	9	9	.....	J. W. Crooke.
St. John	Hardin	777	16	76.3	+ 1.0	94	15	60	20†	28	7.43	+ 3.80	2.45	0	11	21	0	10	.....	Bethlehem Academy.
Scott	Kenton		14	76.4	− 0.3	95	14†	58	19	28	4.96	+ 1.35	2.86	0	13	5	22	4	s.	E. B. Wilson.
Shelby City	Boyle	1,087	18	74.6	− 0.7	96	15	53	28	35	6.80	+ 2.57	1.25	0	14	16	12	3	sw.	H. F. Ewing.
Shelbyville	Shelby	759	23	78.4	+ 1.3	99	16	59	28	36	4.05	− 0.15	1.80	0	7	24	2	5	se.	C. R. Burnett.

TABLE 1.—*Climatological data for July, 1912. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Kentucky*—Continued.**																				
Taylorsville	Spencer	489	10	76.4	+ 0.6	96	15	58	20†	33	4.14	− 0.70	1.76	0	14	8	12	11	sw.	E. D. Bourne.
Williamsburg	Whitley	939	16	76.2	− 0.6	96	20	58	27	31	7.87	+ 1.67	2.20	0	16	16	1	14	e.	Noble C. Jones.
Williamstown	Grant	943	10	76.0	+ 0.9	95	24	58	19	28	2.38	− 2.06	0.83	0	11	22	1	8	.....	Miss Rose Carter.
Tennessee.																				
Ashwood	Maury	725	33	77.4	− 0.7	93	23	61	27	24	7.04	+ 2.60	1.55	0	12	4	11	16	s.	Mrs. Joseph W. Fleming.
Benton	Polk	880	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George L. Williams.
Bird's bridge	Greene	.....	6	.....	.....	.....	.....	.....	.....	.....	6.40	.....	1.33	0	12	15	0	16	w.	David B. George.
Bluff City	Sullivan	.....	15	.....	.....	.....	.....	.....	.....	.....	5.67	+ 0.68	1.04	0	15	11	8	12	e.	John W. Fisher.
Byrdstown	Pickett	1,026	19	77.1	+ 1.2	92	15	58	27	26	8.41	+ 2.86	1.98	0	11	5	15	11	s.	John Lacy.
Carthage	Smith	500	28	78.2	+ 0.8	95	24	61	27	27	7.54	+ 3.15	2.05	0	17	11	6	14	se.	Earl C. Pickering.
Cedar Hill	Robertson	625	12	78.7	− 0.2	99	14†	61	28	33	4.78	+ 1.32	2.02	0	13	16	12	3	s.	J. Frank Ruffin.
Celina	Clay	494	9	.....	.....	.....	.....	.....	.....	.....	6.68	.....	2.80	0	10	7	10	14	s.	Charles M. Anderson.
Charleston	Bradley	709	15	.....	.....	.....	.....	.....	.....	.....	2.84	− 2.50	1.36	0	12	9	14	8	s.	John T. Weeks.
Chattanooga	Hamilton	808	33	77.2	− 0.6	93	25	64	31	25	5.81	+ 1.94	1.31	0	15	6	12	13	w.	U. S. Weather Bureau.
Clarksville	Montgomery	500	49	78.2	+ 0.9	94	14†	61	27	29	2.87	− 1.08	0.75	0	8	15	10	6	s.	Prof. James A. Lyon.
Clinton	Anderson	800	24	.....	.....	.....	.....	.....	.....	.....	2.82	− 2.91	0.77	0	11	13	6	12	s.	Hugh Evans.
Crossville	Cumberland	1,895	....	73.6	.....	89	14	54	27	29	6.63	.....	1.51	0	18	13	14	4	.....	J. E. Converse.
Dandridge	Jefferson	.....	8	.....	.....	.....	.....	.....	.....	.....	4.60	.....	1.10	0	11	11	8	12	w.	James E. Swann.
Decatur	Meigs	850	16	77.0	− 0.6	95	25	58	27	31	5.53	+ 0.46	1.20	0	15	14	16	1	sw.	J. Worth Lillard.
Dickson	Dickson	800	16	76.4	− 1.2	91	14†	60	27†	28	3.72	−.0.30	1.30	0	7	6	21	4	s.	Nathan R. Sugg.
Dover	Stewart	500	17	77.8	− 0.6	95	15†	58	31	30	5.22	+ 1.90	1.28	0	8	13	14	4	s.	Asa M. Tippit.
Dunlap	Sequatchie	726	3	77.5	.....	94	14	.....	.....	32	7.39	.....	3.03	0	13	4	24	3	.....	S. Bradford Boyd.
Elizabethton	Carter	1,575	22	.....	.....	.....	.....	.....	.....	.....	6.83	+ 2.15	1.74	0	19	11	1	19	e.	Charles Boyd.
Erasmus	Cumberland	1,850	15	72.0	− 0.2	91	14	47	27	36	6.54	+ 0.67	3.38	0	18	8	17	6	se.	Mrs. Sarah E. Ashley.
Florence	Rutherford	500	30	77.2	− 0.3	91	25	61	28	25	5.43	+ 1.16	2.10	0	13	10	13	8	s.	Erastus P. Bell.
Franklin	Williamson	648	22	76.9	− 0.4	91	23†	60	28	25	3.01	− 0.76	0.88	0	11	11	4	16	.....	Young M. Rizer.
Halls Hill	Rutherford	.....	10	.....	.....	.....	.....	.....	.....	.....	7.26	.....	1.10	0	13	17	2	12	s.	Edward F. Wright.
Harriman	Roane	841	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hohenwald	Lewis	983	26	77.0	+ 0.5	95	25	58	28	31	8.71	+ 3.96	3.10	0	12	11	17	3	s.	Mrs. Mary Lutzelman.
Iron City	Lawrence	600	15	77.7	0.0	96	25	58	27†	31	3.19	− 0.81	0.95	0	10	.....	.....	.....	s.	Capt. H. Paul Seavy.
Jefferson City	Jefferson	.....	2	.....	.....	.....	.....	.....	.....	.....	7.60	.....	1.74	0	14	.....	.....	.....	.....	Calvin C. Maddox.
Johnson City	Washington	1,620	1	75.6	+ 1.1	94	15	56	27	28	5.13	+ 0.13	1.24	0	15	27	4	0	nw.	Ward Crosby.
Johnsonville	Humphreys	364	16	78.4	− 0.4	96	14	60	28	33	6.33	+ 2.20	1.15	0	11	9	13	9	s.	Miss Sallie B. Mathews.
Kingston	Roane	.....	21	.....	.....	.....	.....	.....	.....	.....	4.05	− 0.85	2.35	0	9	14	0	17	s.	Henry Crumbliss.
Knoxville	Knox	977	41	77.2	+ 0.9	92	14	61	27	24	4.32	+ 0.11	1.62	0	14	4	20	7	sw.	U. S. Weather Bureau.
Lebanon	Wilson	522	3	77.4	.....	93	14	61	27†	28	6.84	.....	1.58	0	10	6	3	22	s.	H. Logan Fields.
Lewisburg	Marshall	727	17	77.6	− 0.8	95	25	59	27†	32	6.36	+ 1.51	1.36	0	13	12	10	9	s.	Dr. Robert D. Crutcher.
Loudon	Loudon	816	9	.....	.....	.....	.....	.....	.....	.....	3.84	− 1.82	1.63	0	10	10	10	11	w.	Robert W. Clark.
Lynnville	Giles	770	24	77.5	+ 0.2	93	25	61	28	26	10.50	+ 5.24	1.61	0	11	4	25	2	s.	Col. James H. Burrow.
McGhee	Monroe	.....	8	.....	.....	.....	.....	.....	.....	.....	3.67	.....	1.30	.....	10	23	1	7	s.	Miss Alice L. Headrick.
McMinnville	Warren	1,011	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryville	Blount	1,050	16	76.1	− 1.6	93	24	57	27	31	5.65	+ 0.66	1.90	0	7	9	11	11	e.	Mrs. Sam T. Broyles.
Mountain City	Johnson	2,486	15	70.4	+ 0.3	86	14	51	27†	30	5.62	− 0.46	1.00	0	13	14	14	3	.....	Edward E. Barry.
Nashville	Davidson	654	41	77.8	− 1.6	93	14	64	28	25	5.37	+ 1.02	1.53	0	16	5	14	12	se.	U. S. Weather Bureau.
Newport	Cocke	1,280	22	76.7	+ 0.2	91	24	60	27	22	6.55	+ 1.82	1.73	0	14	7	12	12	s.	Dr. Charles T. Burnett.
New River	Scott	1,215	5	.....	.....	.....	.....	.....	.....	.....	7.83	.....	1.92	0	13	19	1	11	sw.	Burl W. Buttram.
Palmetto	Bedford	770	19	77.0	− 1.2	94	25	59	27	27	9.33	+ 4.06	3.25	0	12	13	13	5	sw.	Mrs. Ross Woods.
Perryville	Decatur	387	15	78.6	.....	96	23	64	1†	25	8.16	+ 4.41	2.83	0	9	16	6	9	.....	Oliver C. Kirksey.
Pinewood	Hickman	.....	5	77.6[h]	.....	96[h]	25	59[i]	27	30[i]	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Carrie Cash.
Rogersville	Hawkins	1,150	27	76.0	+ 1.4	92	14	57	27	26	5.42	+ 0.52	2.76	0	17	14	11	6	w.	Fred Beal.
Rugby	Morgan	1,410	24	75.4	+ 1.4	96	14	53	28	35	8.15	+ 2.75	2.30	0	14	5	10	16	nw.	Samuel G. Wilson.
Savannah	Hardin	442	28	79.2	+ 0.3	96	25	61	27†	31	4.70	+ 0.26	2.15	0	9	15	10	6	s.	W. H. Carrington.
Sevierville	Sevier	.....	6	76.2	.....	91	14	60	28	25	7.39	.....	1.44	0	14	1	8	22	sw.	Herbert O. Eckel.
Sewanee	Franklin	2,000	16	73.8	− 1.0	88	24	61	1†	25	7.63	+ 2.49	1.65	0	10	6	4	21	sw.	University of the South.
Sparta	White	920	6	76.6	.....	92	14	57	27	30	3.61	.....	1.10	0	11	2	8	21	w.	Ernest H. Hull.
Springville	Henry	377	9	78.0	+ 0.5	95	15	59	27	31	6.47	+ 1.77	1.53	0	11	22	5	4	s.	Hudnall A. Boden.
Tazewell	Claiborne	1,350	15	75.2	.....	93	14	54	27	32	6.32	+ 1.97	1.36	0	16	11	4	16	se.	J. Caloway Carr.
Tullahoma	Coffee	1,075	24	76.2	− 0.1	93	25	59	28	30	9.40	+ 4.74	2.15	0	12	7	17	7	s.	Reuben T. Moore.
Walling	White	909	9	.....	.....	.....	.....	.....	.....	.....	7.58	.....	2.00	0	20	5	8	18	sw.	John K. Roberts.
Waynesboro	Wayne	753	26	77.2	+ 0.6	95	25	57	28	30	4.64	+ 0.06	1.12	0	12	2	5	24	s.	Harry C. Boyd.
Wildersville	Henderson	400	15	79.5	+ 1.9	96	23	62	28†	25	4.24	+ 0.07	1.70	0	7	15	10	6	s.	William R. Wilson.
Worsham	Sumner	550	11	.....	.....	.....	.....	.....	.....	.....	10.41	+ 6.67	1.84	0	12	12	9	10	e.	James G. Elizer.
Yukon	Lincoln	850	15	75.8	− 2.5	92	25	61	27†	27	7.73	+ 3.41	2.13	0	14	5	24	2	w.	William P. Watson.
Alabama.																				
Bridgeport	Jackson	660	12	.....	.....	.....	.....	.....	.....	.....	3.44	− 1.79	1.63	0	13	.....	.....	.....	.....	R. L. Moore.
Decatur	Morgan	573	30	79.5	− 0.3	96	25†	63	28	29	7.00	+ 2.53	3.68	0	12	.....	.....	.....	.....	Earnest A. Carriger.
Florence	Lauderdale	563	28	79.0	− 0.2	98	26	61	27†	30	5.65	+ 0.88	2.43	0	9	16	0	15	e.	Robt. E. Cobern.
Guntersville	Marshall	580	2	78.8	.....	96	24	60	27	32†	6.00	.....	2.70	0	17	.....	.....	.....	.....	L. S. Long.
Madison	Madison	573	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. Patton.
Riverton	Colbert	360	15	77.6	− 1.2	96	25	56	28	36	3.63	− 0.83	1.08	0	11	15	3	13	s.	Ernie J. Moore.
Scottsboro	Jackson	652	29	77.0	− 1.1	92	25	61	27	26	4.79	− 0.48	1.23	0	14	.....	.....	.....	.....	H. A. Caldwell.
Tuscumbia	Colbert	488	30	80.0	0.0	97	25	64	27†	30	4.43	− 0.13	1.30	0	12	.....	.....	.....	.....	Samuel Moore.
Georgia.																				
Diamond	Gilmer	2,020	20	73.2[a]	− 1.1	88	25†	55	31	27	7.25	+ 0.70	1.30	0	20	8	15	8	.....	R. A. Kimzey.
North Carolina.																				
Altapass	Mitchell	2,629	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Altapass Inn.
Andrews	Cherokee	1,800	2	74.4	.....	93	25	54	27†	31	5.86	.....	1.36	0	17	11	17	3	sw.	J. D. Link.
Asheville	Buncombe	2,255	*33	72.0	+ 0.3	87	21	55	27	28	4.64	− 0.22	1.47	0	18	7	12	12	se.	U. S. Weather Bureau.
Banners Elk	Avery	3,750	4	66.0	.....	81	14	46	27†	30	6.89	.....	2.00	0	17	11	12	8	w.	T. L. Lowe.
Blantyre	Transylvania	1,900	....	72.4	.....	90	24	52	27†	30	6.69	.....	3.00	0	19	8	18	5	w.	R. W. Collett.
Blowing Rock	Watauga	4,080	3	65.8	.....	80	21	52	31	21	11.38	.....	2.60	0	19	5	15	11	s.	E. G. Underdown.
Brevard	Transylvania	2,230	11	72.4	+ 0.2	91	22	50	31	30	6.60	+ 0.26	2.00	0	23	5	26	0	s.	W. E. Breese.
Bryson City	Swain	2,000	24	.....	.....	.....	.....	.....	.....	.....	5.24	− 0.04	0.93	0	14	.....	.....	.....	.....	D. K. Collins.
Cullowhee	Jackson	2,100	2	72.6	.....	88	22†	50	27	34	5.48	.....	1.69	0	19	9	3	19	nw.	Frank H. Brown.
Eagle Nest	Haywood	5,050	....	64.8	.....	78	10†	48	27	23	3.95	.....	0.66	0	18	16	10	5	sw.	S. C. Satterthwait.
Hendersonville	Henderson	2,167	16	71.6	− 0.7	89	24	54	31	27	7.72	+ 1.58	2.20	0	22	20	0	11	w.	Dr. L. B. Morse.

TABLE 1.—*Climatological data for July, 1912. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Carolina—Contd.																				
Highlands	Macon	3,670	22	65.3	− 1.7	79	22†	47	27	26	17.78	+11.07	3.03	0	19	8	21	2	se.	T. G. Harbison.
Hot Springs	Madison	1,326	14	74.6	− 0.1	90	24	55	27	28	6.14	.....	1.45	0	14	17	12	2	e.	P. A. Garner.
Jefferson	Ashe	2,800	5	69.6	.....	84	14†	51	28	31	7.82	.....	1.60	0	16	5	7	19	w.	Prof. E. J. Johnson.
Marshall	Madison	1,646	10	74.6	− 0.2	92	13†	54	31	33	3.50	− 0.59	1.36	0	12	7	12	12	w.	M. L. Church.
Murphy	Cherokee	1,614	36	.....	.....	.....	.....	.....	.....	.....	4.21	− 1.83	1.12	0	11	.....	.....	.....	.....	Victoria Mingus.
Rock House	Macon	3,100	20	68.3	− 3.2	83	24	53	27	24	16.01	+ 7.64	3.19	0	19	7	12	12	s.	Harry C. Hawkins.
Transon	Ashe	2,600	....	68.2	.....	83	13†	49	27†	30	3.40	.....	0.93	0	9	21	6	4	w.	S. M. Transou.
Waynesville	Haywood	2,756	18	71.4	+ 1.0	88	22†	50	27	33	3.55	− 1.28	0.68	0	20	11	10	10	sw.	Judge J. C. L. Gudger.
Virginia.																				
Blacksburg	Montgomery	2,170	21	70.4	− 0.5	86	14†	50	28	33	5.55	+ 0.73	1.55	0	14	7	12	12	nw.	Agr. Exp. Station.
Burkes Garden	Tazewell	3,250	17	66.0	− 1.2	83	14	44	28	33	7.43	+ 2.82	1.25	0	11	1	8	22	sw.	C. H. Greever.
Elk Knob	Lee	3,243	9	74.1	.....	88	14†	60	31	25	3.49	.....	0.64	0	17	10	19	2	se.	Henry Nicoll.
Ivanhoe **	Wythe	2,028	8	69.8	.....	82	18†	54	1	22	3.81	.....	0.86	0	9	14	13	4	w.	Miss Alice G. Jewett.
Max Meadows	....do	2,028	16	71.0	+ 0.1	87	14	50	29	30	5.49	+ 1.29	0.92	0	10	14	15	2	sw.	James M. Graham.
Mendota	Washington	1,350	.....	.....	.....	.....	.....	.....	.....	.....	4.04	.....	0.65	0	16	.....	.....	.....	.....	Frank M. Barker.
Mountain Lake	Giles	4,348	2	65.0	.....	80	12†	47	27	25	5.39	.....	1.50	0	10	21	9	1	n.	H. E. Dorland.
Radford	Montgomery	1,773	3	.....	.....	.....	.....	.....	.....	.....	3.62	.....	0.90	0	11	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry	Scott	1,221	16	.....	.....	.....	.....	.....	.....	.....	5.36	+ 0.43	1.98	0	15	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville	Wythe	2,293	19	70.5	− 2.1	88	14	52	28	29	4.62	+ 0.18	0.89	0	19	12	16	3	w.	U. S. Weather Bureau.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed reading
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 8, Ohio Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York.																																	
Allegany	Allegheny			.06	.05				.07	.12	.50	.27			.31	.16	.08	T.				.28			.32		.03	.04				.32	2.61
Bolivar	do			.82	.18					.29	2.00	.71			.20	.56		.02	.22			.22			.24		.14		.12	.34		.25	6.31
Olean ‖	do				.11	.31	.02				T.	.67	.44		.34		.45					.05	.21		.12	.22				.25		.33	3.52
Pennsylvania.																																	
Aleppo	Ohio			T.		2.45						1.00					.72		.22			1.01	.12		1.98					.32	.22		8.04
Baldwin	Allegheny																																
Beaver Dam ‖	Ohio				.07					.06		.03	.19		.04		.21		.27	.01		.72	2.27		.69	1.15				.40			6.11
Beaver Falls ‖	do				.13					.12		.25	.01		.05		.10		.14			1.29	2.02		1.00	1.38	.03			.35			6.87
Brookville	Allegheny				.65					.07		.20	.84		.09			2.48				1.39			.88		.13	.10			.10		6.93
California	Monong'h'a					.38					1.05		.15				.25	.05				1.90			3.25	.80							7.83
Clarion ‖	Allegheny										.20	.15	1.70		.05				4.10			.40	1.00		.10	.50	.15			.10			8.45
Claysville	Ohio			.02		.92					T.	.02	1.12					.19	.03	1.67	T.	1.92	.17		1.82	.15	.01			.91			8.95
Confluence ‖	You'og'ny				.19	.05	.03					.16	T.					2.40	.80	.53		.22	2.00		T.	1.55				.12	.10	.05	8.20
Coraopolis ‖	Ohio										.35	.20	.12		.03	.02	.12		.02	.25		.95	2.18		.55	1.23				.31	.03		6.36
Davis Island Dam ‖	do				T.						.08	.02	.27		.01	.10	.02		.04	1.02		1.06	2.29		.64	1.38	T.			.31	.10		7.34
Derry Station	Allegheny			.21		.05					.02	.14			.01	T.	1.22	.08	1.93	.07		2.60	.03		1.43	.01	.04		T.	.86	.26		9.09
Ellwood City ‖	Ohio				.70					.39		.07	.16		.07		.47		2.14			1.14	1.83		1.19	2.11	.09			.65			11.01
Franklin ‖	Allegheny										.35		.42		.25				1.53			.58	.42		.71	.59	.03			.05		.18	5.11
Freeport ‖	do				.45							.29	.04		.02	.13	T.	.18	.66	.34		.66	1.20		.90	1.40				.52			6.79
Greensboro ‖	Monong'h'a	.54				.40							.24				.20	1.86	.86	.30		.36	.64		.06	2.00				.10	.90	.10	8.56
Greensburg	You'og'ny			.91	T.	.04				T.	T.	T.	T.		T.		.60	.14	2.13	.16	T.	1.77	.01		1.85		.20		T.	.57		.02	8.40
Greenville	Ohio			.20	.25				1.10			.60		.30		.16	.02	T.	.36	T.	T.	1.06			1.41		.22			.16		.20	6.04
Grove City	do			T.		T.			.45		.06	.25			.18		.17	T.	1.05		T.	2.15	T.		1.23		.14			.84		T.	6.52
Herrs Island Dam ‖	Allegheny				.07						.01	.45	.73		.01	.02	.02		.05	.64		.60	1.62		.63	1.40	T.			.38	.19		6.82
Indiana	do			.04	.06	.15			.30		1.50	.10	.05				1.10	.22	1.17	.10		1.58	.15		.82					.58		.83	8.75
Irwin	Monong'h'a				.51	.23					T.	.10			.08	.23	.03	.03	3.79	.08		2.12	T.		1.66	T.			.54			.28	9.08
Johnstown	Allegheny			.01	.21	1.20					.03		.01			.16	.18	1.70	1.15			1.92	.06		1.07	T.	T.			1.00		.12	8.82
Lock No. 4 ‖	Monong'h'a			T.	T.	.68						.50	.04			T.		.24	.66	1.39		.30	2.20		.48	1.58				.43	T.		8.50
Lycippus	Allegheny			1.48	.05	.10					T.						.75		.85	.35		2.02			1.60		.18			1.03		.09	8.50
Parkers Landing ‖	do			.04		.88					.14		.66		.06				2.70			.20	1.38		.34	.62	.04			.32			7.38
Pittsburgh	Ohio			10						T.	.61	.49			T.	.02	T.	.06	.39		T.	2.40			2.01	T.			T.	.38		.15	6.61
Saegerstown	Allegheny		T.	.12					.22		.40	.08		.24	.14		.02					.40			.80		.11		.02	.06		.55	3.16
Saltsburg ‖	do			.01	.06								.44		.01	T.	.01	.32	.21	1.11		.08	1.50		.10	1.64	.02			.50	.44		6.45
Sharon ‖	Ohio				T.	T.						1.10			.43		.70	.09	.55			.31	.74		1.40	.59	.35			.48		T.	6.74
Skidmore	do										.50					.30		1.00	1.10			1.00			2.50					.30			6.70
Somerset	You'og'ny			.28	T.	.11				.10	.16					.13	.71	.06	1.02	.16		1.55	.15	T.	1.52	.11	.10			.55		.15	6.86
Springdale ‖	Allegheny				.13	.08						.35	.18			.15	.60	.20	1.20	.10		.69	1.85		.50	1.50	.25			.50	.18		8.46
Uniontown	Monong'h'a		T.		.77	.09							.13	.02				.51	1.18	1.22		1.39	.22		2.29					.37			8.19
Warren	Allegheny				.38						.58	.50			.44		.06						.26		.84		.10		.24			.64	4.04
West Newton ‖	You'og'ny				.40	1.22	.31					.80	.01			T.		1.30	2.27	.76		.37	2.98		.10	1.24				.64	.25		12.65
Maryland.																																	
Deer Park	You'og'ny	.20			.49	.18				.19		1.50					.67	.06	.65	.09		1.27			4.13	.22				.91		.10	10.66
Grantsville	do			.05	.65	.43									.02		.28		.28			1.95			1.10					.36			5.12
Oakland	do	.46			1.87				.04	1.64		.13	.96				.12	.04	.70	.19	T.	1.32			4.00	.10	.06			.75	.08	.08	12.54
West Virginia.																																	
Bancroft	G. Kanawha	.35			.20	.35	.13				1.24	.24							.35	1.58		.11	.10			1.38					.17		.19	6.39
Beckley	do									1.52	.48		.50			.40	.30			.82							1.12					.28	5.42
Bens Run	Ohio	.15	.01			.40						.08					.20	.08	.27	.11		1.65			1.40					.02		1.11	5.48
Bluefield	G. Kanawha				1.20	.51		.75			.04	.17	.10		.04				.45	.10	.15		.50	.15		.95						.29	.10	5.50
Brandonville	Monong'h'la	.31		.03	.91								.25				3.04	*	1.08	.33	.60	.61			2.95					.60		.10	10.81
Buckhannon	do	.62	.06	.15	.95					T.			.65				.06	.45	2.32			1.00	.25		1.17	.80				.66		.13	9.27
Cairo	L. Kanawha	*	*	*	*	*	*	.44			.03		.80			.05			.40	.08		3.50	.50		1.10							.20	7.10
Central Station	Mid. Is. Ck	T.			.68	.47	.04			.03	T.	T.	.16		T.			.05	.29	.06		2.19	.36		1.90	.15				.17		.98	7.53
Charleston	G. Kanawha	.10	.26	.02		.35	.13			.40	T.	.12	.66		.05		.33		.83	.95			.06			1.28					.30	.06	.25	6.15
Cheat Bridge	Monong'h'la	.04		.16	.30	.25	.16	.01			.05	.16	.18	.16	1.04	.35	.34	.04	1.30	.35			1.55		.06	1.44	.04				.47	.07	8.52
Cortland	do	.09			.06	1.92	.50				.12	.38	.84					1.69	.60	1.43		.46	1.29			4.02	.11				.56	.94	.21	15.22
Creston	L. Kanawha	T.	.24		.03	.02					.02	.59	.23					.91	.10	.48		.10	1.87		T.	.70	.20				.60		.41	6.50
Cuba	Sand Creek																																
Davis	Monong'h'la	.69	T.	.80	.42	.95	.86			.29	.10	.38	.34				T.	.66	.43	1.58		.52	1.07		.06	2.15	.04				.55	.37	.42	12.58
Doane	Big Sandy	.53			.33		.31		.45	.70		.03					.30		.52	.40	.09					2.60					.50	.03	.60	7.39
Elizabeth	L. Kanawha	.13	.60	.08		.07					.10	.15	1.07						.18	.95		.28	1.04			1.39	.09				.15	.07	.28	6.63
Elkhorn	Big Sandy	.51	T.	.27	1.10	T.		.10	.68		.58	.87			.63				.45			.73			1.05	T.				.72	.12	.40	8.21
Elkins	Monong'h'la	.03		.25	.07	.02		T.	.01	.05		.35	.01				.67	.22	2.22	.02		1.23	.40		3.97	.04	.01			.85	T.	.19	10.61
Fairmont	do	.04					T.						.16				.01	T.	.07	.40		1.51	.57		T.	2.69	.04				.08	.08	.24	5.89
Glenville	L. Kanawha	2.23			.03	1.07		.10		.50				.23				1.05	.27	.48		.43	3.27			1.70	.12				1.05		.40	12.93
Grafton	Monong'h'la	.10	.15			.05					.05		.60				.04	.01	.72	.30		1.70	.04		2.15	.53	.11			.23		.36	7.14
Green Sulph'r Spgs.	G. Kanawha	.10			.02	1.16				.01	.11	.06	.07			.14			1.25	.01			.02			.62					.21	.22	T.	4.00
Hinton	do	.10			.04	.28	.24				.46	.08	.24			.10			.02	.32			.04		.02	1.00						.04		2.98
Holcomb	do			.18	.22	.40				.12	.04	.03		1.49					*	1.98			.18			*	2.22			*	1.02		7.88
Huntington	Ohio	.16	1.36	.04		.04	.46			.66	.02	.24	.76						.28	.32		.02	.14			2.24					.12		.04	6.90
Lewisburg	G. Kanawha	T.		.25	T.	1.39		T.		T.	T.	T.			T.				.51				T.		1.07	.21					.18	.03	T.	3.64
Logan	Guyandotte	.30	.37	T.	.07	.06				*	*	*	*	*	*	*	*	2.60	.11				.50			2.00	T.				.40	.02	.35	6.78
Lost Creek	Monong'h'la	.16			T.	T.				T.	T.							.20	.62	.18		2.10	.28		1.28	.19				.20		.76	5.97
Madison ‖	G. Kanawha	1.98	.18		T.	.50	T.	T.			.27		.47	.02				1.08		.72	T.					.03			.21	.36		.70	6.52
Mannington	Monong'h'la			.04	.51	.02				T.			.86				.04	.92	1.16	.64		1.35	.03		2.90	.36				.28		.28	9.39
Marlinton	G. Kanawha			.60	.16	.02								.13	.14		.03	.04	.24			.35			.59	.34				.03			2.67
Morgantown	Monong'h'la	.60		T.	.52	.13							.24		T.	.87	2.13	.40	.47	.40		.84	.41		3.06	.17				.78		.15	11.17
Moundsville	Ohio	T.			T.	.59				.10	T.		.09			.07	.72	.73		.48	T.	1.02			1.88	.95				.23		.04	6.90
New Cumberland	do		.10	T.					T.		.10	T.			T.	T.	T.	T.	.50		T.	2.60			1.10	T.	T.			.40		T.	4.80
New Martinsville	do	.05			.02	.38						.20					.45		.45	.30		.95			2.10	.20				.05		.48	5.63
Nuttallburg	G. Kanawha																																
Osceola	Monong'h'la				.41	.59	.10			1.02	1.33	.03			.39	.21	.25		1.50			1.80		.19	2.27					.50	.35	.18	11.12
Parkersburg	Ohio	.03	T.		T.	.01			T.	T.	.07	.56				1.09		.17	.57			3.76			1.56	T.				.02	T.	.23	8.07
Parsons	Monong'h'la	.20	.10	.50	.40	.80			.40	.22	T.	T.						.25	2.25	1.00		1.28	.22		4.50	.15	.10			1.50		.15	14.02
Philippi	do	.11	.71		.04	.01					.02		.15				T.	.04	.75	.85		1.40	.08		1.50	.51	.01			.22		.59	6.99
Pickens	do	T.	T.	1.37	.26			.24		T.		T.		.15		.10	.17	2.01	.40			2.01	.85	1.85	.36				.74	.11	.03	.35	11.00
Point Pleasant ‖	Ohio	1.34	1.14	.10	.14	.06					.01	.46	.86						.36	.50		.32	1.60			2.14					.60		.24	9.87
Powellton	G. Kanawha	.04	T.	.10	1.40	.61	T.			.30	.03	.87	.07			.31	.04	.85	1.60	.06			.02		T.	1.10					.16		.03	7.59
Princeton	do	2.50			.40	.50				.50	.10	.25							1.25	T.		.10	.40	1.00						.15	.15	.10	7.40
Robertsburg ‖	do	1.34		.10			.59				.10		.30				.04		.16	2.80		.12	1.30			1.83					.17		.36	9.21
Rowlesburg ‖	Monong'h'la	.12	.20		1.84		.28					.26						.48	.30	.86		.66	.54		4.06	.06				.36	.28	.12	10.42
Ryan	G. Kanawha	.55				.42			T.	T.	.79	.28				.15		.13	1.13		T.	1.97	.10		1.10	.40	.01			.27	.10	.49	7.89
St. Marys ‖	Ohio			.03								.72							.16	.28		.50		.85	.10	.93					.13		1.18	4.88
Smithfield ‖	Fishing Cr'k	.58			.53	.10											T.		1.05	.97		.31	.12		1.03	1.98						.11	.23	7.01
Spencer ‖	L. Kanawha	.50	.50		.08	.27			T.		.09	.51						.06	.57	1.07		.16	2.30			1.12	.03				.33	T.	.28	7.87

TABLE 2.—*Daily precipitation for July, 1912. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
***West Virginia*—Con.**																																	
Sutton	G. Kanawha	T.			.42	T.					T.	1.10										2.50				1.63	T.			.54	.73	.31	7.23
Terra Alta	Monong'h'la	.32			.18								.52				.45					2.00			2.00	.10	.12			1.00			6.69
Union	G. Kanawha	1.50			.92	.30						.30	.10			.53				.09						1.10	T.				.10		4.94
Valley Fork	do			.25	.50	2.00					1.65	.87					1.20					1.03				2.05				1.41	.43		11.39
Webster Springs	do	.15	.10	T.	.20	.12			1.75	2.00	.80		.20			T.	1.20	.40	.62	.35	T.			.36	.80	2.25	.27			.72	.20	.40	12.89
Wellsburg	Ohio			.02	.10						.16	.35			T.				.37	1.25	T.	2.30	.44		2.31					.72		.40	8.42
Weston ‖	Monong'h'la																																
Wheeling ‖	Ohio		.01		T.	.92					T.	.05			T.		.73	.35	.01	.22		.30	.65		.02	1.95				.35	.15	T.	5.71
Williamson ‖	Big Sandy	.64	.54	.74	.30	.16					1.24	.18	.08				.32		.14	.78			1.52			2.14				.06	.46	.50	9.80
Ohio.																																	
Amesville	Ohio			T.	T.						.05	1.85						.20	.08	.62		.96	.37		T.	.70						.32	5.15
Bangorville	Muskingum	.12		.12	T.				T.		.59				1.44	1.23	.07	T.	.33		T.	2.03	.07		.24					.53	.38	.05	7.20
Bellefontaine ‖	Great Miami		.34	.01	.02					T.	.06	T.		1.22			.44	T.	.94			.62	.74			.05			.05				4.89
Bladensburg	Muskingum			.03					.04		.49	.38			.17			.04	T.			.90			.46					.39			2.90
Cadiz	Ohio			.07	T.						.19	.03			.17			.21	.49			2.81			.90	T.			.55			.44	5.86
Cambridge	Muskingum	.12	T.	.07						T.	.26							.01	.40			1.18			.30					.48		.45	3.27
Camp Dennison	Ohio	.08	.13	.15	T.	T.	1.10	.01	T.		.75	.61				T.		1.66	.02			.62				.35							5.48
Canal Dover	Muskingum	T.	.52								T.	.85			.13	.26			.15			2.14			.93					.95		.05	5.98
Canton ‖	do				.16						.08	.01	2.50		.23		.05		.43	.70		.32	2.00		.60	.10		.01		.79		.04	8.02
Cardington	Scioto	T.		.14			.13		.20					1.20	.12	.04		.10	.17						.92	.05				.18	.55	.24	4.04
Chillicothe ‖	do		.99	.10		.14														.95	.15		2.63			.43							5.39
Cincinnati	Ohio	.55	.32	.02			.20	.14	.28		.61	.39						2.54	.02		.01	.03											5.11
Circleville ‖	Scioto	.23		.10	1.65	.04	T.	.08		T.	.56	.27	.49			.03	T.		.48			.08	.74			1.00				T.		.29	6.04
Clarington	Ohio			T.		.20	T.				.02	.65		T.		T.	.15	.43	.15	.40		1.25	.02		3.10		.05			.18		.40	7.00
Columbus	Scioto	.01	.06	.68	T.		.02	T.	T.		.23	.20		.02	.03	T.		.12				.83			.60	T.				.10	.60		3.50
Coshocton ‖	Muskingum	.17	.27	.06	.20	.01			.02		.07	.09	.86			.20		.05		.01		.52	.63		1.01	.42	.02			.63		.21	5.45
Dayton (1)	Great Miami	.70	T.	.06	.03		T.	T.	T.		T.		.18	T.	.02	1.00		.25				.70			T.						.39	.02	3.35
Dayton (2)	do	.67		.15	.22		.03	.11	.10		.15	T.	.63			.83		.52	T.			.77			T.				T.			.64	4.82
Delaware ‖	Scioto		.25	.28		T.				.16	T.				.40	.04		.38		T.	1.68	T.	T.		.20	.18				.38		.28	4.23
Demos	Ohio			.42	.16	T.		T.	T.	T.	.01	T.		T.	T.	.09	T.	.04	.60		T.	1.28	.04		2.38		.13			.39		.04	5.58
Dennison	Muskingum		T.	.09											.21	T.		T.		.21	T.	1.32	.44		1.28		T.			.59		.02	4.16
Frankfort	Scioto	.15	.06	.10	T.	T.	.25		.30	1.10	.15					.10		1.78	T.			1.25	.10		T.							.60	5.90
Gallipolis ‖	Ohio	.72	.22	.30		.04					.04	.35	.17						.73	.85		.32	1.18			2.33							.13	7.70
Garrettsville	Mahoning			.32					.18	.08		.10		.36	.52	.19	T.	.02	.03		T.	.56			2.08	.06	.03			.66	T.	.03	5.21
Granville ‖	Muskingum		.19	.06	1.16	T.	T.	T.		T.	T.	.33	.02		.20			T.	T.	.04		.66	1.13			.65				.13		.91	5.48
Gratiot	do	T.		.34					.11	.34	.75	.03			.29			.04	.27		1.64				.33					.17		1.55	5.86
Green	Ohio	1.85		.30	.35	.20	1.10	.10	1.95		.56	T.				.15	T.	.25	.30		.20				.64							.03	7.98
Green Hill	Muskingum			.03					.05		T.	.22			.16	.32	T.		.25		T.	3.33			.95	T.	T.		T.	.52		T.	5.83
Greenville ‖	Great Miami	.22	.78	.02					.09	.33	1.20	1.25					.56		.02			.03	.31			.10						.15	5.06
Hamilton ‖	do	T.	T.	.44	.38	.11	.01	.05	.04			.08					.11			.06			.62	T.						T.			1.90
Haydenville	Ohio	.75	.25				.03	.09			.32							1.25	.22			.50			1.64							.25	5.30
Hillsboro	Scioto	T.	T.	.53		.38	.55		.14	.14	.38	.31						3.21	T.	.14		3.49											9.32
Ironton	Ohio	1.08	.45		.05	.15	.02				.76							.05	.44			.58				2.98				.15		.19	6.90
Kenton	Scioto			.33	.04		.08	.45	.20					.49	.71	1.55		.18	T.					.78		.10				.40	.09		5.40
Killbuck	Muskingum	T.	T.	.08				2.25			.78				.35	.10		T.	.65			1.62				.75		T.			.35		.40	7.33
Lancaster	Ohio	.15	.20	.03	.03		T.		.56	T.	.09	.70	.02		.03			.10				.40			1.10	T.				T.		.86	4.27
McConnelsville	Muskingum	.58	T.	T.						.04	.54	.68			.20		T.	.36	.45			1.00			1.12		T.			.02		2.48	7.47
Marietta	Ohio	.03	T.									.98	.03			.01	.32	.14	.52	.27		1.36			1.37					.05		.90	5.98
Marion	Scioto	.55	.30	.75	.05										1.30	.25		.55	.08			.85			.80	.75			.55		.63		7.41
Millfordton	Muskingum	.07	.72	.58	.04				T.		T.	T.			1.03			.18	.06			.74			.60					.35		.73	5.10
Milligan	do	.38	.11		T.					1.17	1.12	T.	.32		.90			.40	.15			1.62			1.80							.75	8.72
Millport	Ohio		T.	.33								.60				.65			.15		T.	3.40			.87		T.		T.	.45			6.35
Nellie	Muskingum			T.					.16		.75	2.10	.30					.63				1.05			1.40					.90		.20	7.49
New Alexandria	Ohio			T.							T.	1.43				.28			.50	T.	T.	2.00		T.	1.10				.40	.50	T.		6.21
New Berlin	Muskingum			.65		.30				.05	T.	.08			.50	.35		.25	.15			2.05			.45		.04			.70		.08	5.65
New Waterford	Ohio			T.		.67						.50				.48			.33			2.25			1.90					.58			6.71
O. S. University	Scioto		.04	.43			.03				.30	1.27			.28	T.		.44				.87			.75	.04				.32	.64		5.41
Pataskala	Muskingum	T.	.04	.08			T.	T.	T.	.17	.30	T.		.08	.08			1.40	T.			1.00			.54	.30				.03	.02	.38	4.42
Peebles	Ohio	.01		.61	.01		.45		1.24	.02	.50	1.29	T.					1.00	.80	.35		1.16	.92			.89				.25		.16	9.66
Philo (1)	Muskingum	T.	T.	T.						T.	.31	.05			.05			.64	.44						.64					.08		.86	3.07
Piqua ‖	Great Miami		.72	.28	.07	.04		.79	.04	.30	.04	1.70		.15			2.29		.06		.03		.28			.08						.14	7.01
Plattsburg	do	T.	T.	T.	T.		.14				.19				T.	T.		.47			1.13				T.							1.93
Portsmouth ‖	Ohio	.10	.42	.32		.28	.02				.86	.46	.45				.10		.35	.10		.06	.10			1.40						.34	5.36
Prospect ‖	Scioto																																
Shenandoah	Muskingum			.16					T.		.18			.29	.06	.98	.08	1.20	.03			2.09			.80					.64	.15		6.65
Sidney	Great Miami	.07	.23		.05		.25		.56	.04	.13				1.62	.44	.60	.11	.21			.68											.66	5.65
Somerset ‖	Muskingum	.39	.65	T.							.07	.56	.09			.28	.02		.02	.13		.20	.53			.87				T.			.59	4.40
Springfield	Great Miami	T.	.06	.15			.30				.47				.10	1.02	.01	.07				1.00				.06				.01		.06	3.31
Summerfield	Ohio	.39		.09	1.26	.03				.14	.15	.42			T.	.13		T.	.94			.81			2.00					.30		.69	7.35
Syracuse	do	1.80		.50	1.20						.60	.01	.02					1.00	.03			1.90				2.10				.40		.40	8.97
Thurman	do	.15	T.		T.				.72	.40	.10						T.	1.30	.18			1.30	.55			1.90						T.	6.60
Urbana	Great Miami	.40	.18	.93				.02		T.					.38	.14	.05					.68									T.	.70	3.48
Warren	Mahoning			T.							T.	.58		.24	.39	.27		.75	.29		T.	1.02			2.78	T.	T.			.39	T.	T.	6.71
Waverly ‖	Scioto	.31	.10	1.55	.05	.25	T.	.07	T.			.46	.36	T.					.90	.04		.34	2.26	T.		2.15					.08	.31		9.23
Waynesville	Great Miami	.25	.04	.50	.05		T.		T.		.30					.02		.20	.10			2.40											.67	4.53
Wooster	Muskingum	T.	.15	.41					T.		.21	.07			.18	.81	.02					3.74			.83		T.		.02	.90		.12	7.46
Youngstown ‖	Mahoning				.02		.12			.09				T.	.22		T.	.02	.90			.32	.44		1.62	.54	.02			.34	.02		4.67
Zanesville ‖	Muskingum		.06	T.	.23					T.	T.	.48	.03			.09			.03	.15		.78	.50			.58				.30		1.35	4.58
Indiana.																																	
Anderson	West Fork, White.	.18		.15				.83		.50	1.40					.18	.07	1.54	.03			.49			.03				.02			.25	5.67
Attica ‖	Wabash	.35	.20	.19	.41			.28	.06			.31			2.24							1.65								.30			5.99
Bloomington ‖	West Fork, White.		.20	.03	.85		T.	.83	.54	.93	.02	1.23		.02	.10		.03		2.20			.02	.88		T.					.18		.12	8.18
Bluffton ‖	Wabash			.07					.03	.30	.10	.06			2.04		.05				.01	.12			.30					.03	.27		3.38
Butlerville	East Fork, White.	.48		.34	.42		.11		.14		.16	.04				2.11		.87				.75									.06		.35	5.83
Cambridge City ‖	Whitewater		.05	.44	.14			.28	.05	.18	.04	.25	.21		.12		.03		1.96				.23			.03						.38	4.39
Columbus ‖	East Fork, White.	.10	.29	.79	.46	.16		.30	.07	.65	.66	.31			.05		.27		1.19			.28	.25								.08	T.	.04	5.95
Connersville	Whitewater				.34			.50	.13	.09	.21				.10			.73				.52												2.62
Crawfordsville	Wabash	T.	.31	.60					.20		T.	.10		.40	.30							.65		T.						.22	T.			2.78
Delphi ‖	do	T.	.18	T.	.34			.07	.70	.02	.17	T.			.27		T.					.05	.18		T.					.12	.15	.25	2.50
Eminence	West Fork, White.	T.	T.	1.12	.25		.06	.20	.25	1.35	.16	.72				.05		.05				.75					T.		.10				5.06
Evansville	Ohio	.11	.24	1.01	1.65	.08	.07	.07	1.43		.05	T.						.05	.01		.01	.03	T.	.25					.23		.01		5.30
Farmersburg	Wabash	T.	.09	1.29	.11		.13	.07	.22		.60	.28			.90	T.		T.				.68	T.						.29	.04			4.70
Farmland ‖	West Fork, White.	.99		.09	.05				.20	.25	.75	1.50			.96		.97	.05	.07			.15	.50			.25						.49	7.27

TABLE 2.—*Daily precipitation for July, 1912. District No. 3*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Indiana—Contd.																																	
Forest Reserve	Ohio			.08	.17		.06				.08						.09		.20			.92								.04			1.64
Greenfield	East Fork, White.	.20		.42	T.		.06	.15	.50	.65	2.00		T.		.16	.40	.25	T.	.14			.50	T.						.05			.11	5.59
Greensburg	do				1.00	.30	.10	.25	.70	.19	.20	.10		T.		.61		4.82												T.			8.18
Hickory Hill	West Fork, White.																																
Huntingburg	Wabash		1.20		3.50			.64	.50	.46						.60			.40			.77		.55					30			8.92
Huntington	do		T.					T.	.05		1.35			1.56	.10	T.						.30		T.				.08		.20		3.64
Indianapolis	West Fork, White.	.33	1.42	.29	T.		T.	.23	.19	2.49	.24	T.	T.	.03	.01	.06	.01	.50				.40		T.				.15	T.	.40		6.75
Jeffersonville	Ohio	.08	.05	T.	.05	.06	.12	T.	.50		.03					.97	.01	.14	.45		.05	.79	.61	.01					.03			3.95
Judyville	Wabash	.30	T.	1.09		.11		1.17	.10	T.	1.05			1.42								.41							T.	T.		5.65
Kokomo	do	T.		.10				T.	.05	.73	1.53			T.	.08	T.						.61		.19	T.			.09	T.	T.	.15	3.53
Lafayette	do	.03	.05	.19	.02			.98	.75		.09			.02	.30						T.	.27						.14	.39	.59	.40	4.22
Laurel	Whitewater	.42	.12	.47		.25		.27			.07	.06					.20		1.53			.24	.06									.01	3.70
Logansport	Wabash	.63		.20					1.75						.07		.41					.15			.56	.29					.30	4.36
Madison	Ohio	.37		1.91	.32		.02		.55	.03	.40					.90	.15	.23	.17			.64	.04								.50	6.23
Marengo	do		.17	*	.85		*	.50	.22			.84						.20	T.		.15	1.01							.20		.02		4.16
Marion	Wabash	.76	.03	.05	.28				.26	.26	.04	.30			.20		.17						.26		.02	.37						.26	3.26
Mauzy	East Fork, White.	1.00	.31	.02	.13		T.	.19	.73	T.	.60				.09	.22		.11				.52							.01			.17	4.10
Monticello	Wabash			T.	.03			.04	2.12		.70	T.			T.				1.00			.33			.57					T.		.11	4.90
Moores Hill	Ohio	.12	T.	1.20	.45		.27		.12		1.07				T.	.10	.01	.05				.35								T.		T.	3.74
Mount Vernon	do		.30	.38	3.55	.60		.73		.90		.32	T.							.12		T.	.02						.54		.20	7.66
Nashville	East Fork, White.	.07	T.	.60	T.	T.	.05	.50	2.05	.03	.40					.43		.40				1.60							.05				6.18
Paoli	do		.14	.28	.73		.21	.66	.05		.05						.02	.34	.01		.02	1.12	.12							.26			4.01
Princeton	Wabash		.70	.90	1.70		.04		.39		.05							.11										.48					4.37
Richmond	Whitewater	.18	.15	.12	.04		.04	.23	.07	.70	.12			.07	.10	.09		.14				.43						T.		.53			3.01
Rochester	Wabash		.02					2.25	T.	T.	T.			.51	.10							.50		.02				.23		T.	.51		4.14
Rockville	do	T.	T.	1.66	T.		T.	.30	.84		.33			T.	2.01	T.	T.					.51						.14	T.	T.	T.		5.79
Rome	Ohio	.04	.04		1.50			.09	T.		.58	T.							2.59		.69	.18	.34	.11					13				6.29
Salamonia	Wabash	.18	.02	.11			.14	.06	.40	.83	.92				.76	.32	.83		.84		.40	1.40		T.	.01					.02	.20		7.44
Salem	Ohio		T.	.13	.50		.37	.15	.53		.04		.37			T.		.25	T.		.05	1.00	.04	.14				T.	.14	T.			3.71
Scottsburg	East Fork, White.	.84	T.	.18	.24		.11				T.					.46						.84						T.			T.		2.67
Seymour	do	.01	.30	.14	.16		.03	.12	.40	T.	T.	.06				.04		T.				1.40						.07	.01	T.			2.74
Shelbyville	do	.05	.26	.32	.33		.05	.14		1.04	1.25	.05			.11	.40	.11	1.22				.28		.02				T.		.48			6.11
Shoals	do			.31	2.02	T.		.75	.17	.27		.34					.72		1.58			.06	2.20						.45				8.87
Terre Haute	Wabash	.35	.02	2.48			T.	.08	.38		.45	.49			1.00	.98						.83							.18	.05			7.29
Veedersburg	do	.20	.05	1.22		.05		.60	.06		.06	.08		3.00	1.73							.83							.31				8.19
Vevay	Ohio	.05	.25	.10	.25		.20	T.	T.		1.30					.80	.10	.20	.15		.01	.20			.05		T.		T.		.50	4.16
Vincennes	Wabash		T.	.10	2.30	T.		T.	.10	T.		.35					.36		1.30				.22						.50		T.	5.23
Washington	West Fork, White.	.13	.54	1.08	1.10	.01		.09	.04		.06	.06			T.	1.10	T.	.27				1.13	.12	.01	.02				.23				5.99
Whitestown	do		.03	.05	.46			.02	.72	.10	.63	.69			.09		.24	T.	.63			.02	.68						.28	.03	.11		4.78
Winona Lake	Wabash		T.				.06	.84	1.11	.03	.16			.45	.15	T.					T.	2.14		.02				.21		.65			5.82
Worthington	West Fork, White.	.08	.58	1.58			.07	.14	1.60		.05	.14			.03	.08		.31	.61			.90	.05					.04	.13				6.39
Illinois.																																	
Albion	Wabash		.70	1.00	1.11		.58	.32			.51							.08			.25	.30	.02						.26	.08		5.21
Carmi	do																																
Casey	do	.74	.76	1.02	.38		.14	.28	.63		.15	.35			1.56	.10		T.			.10			T.				.60	.05			6.86
Charleston	do	.75	.32	.70	.23				.17		2.25			.37				.16				.58		.10				.73			T.	6.36
Danville	do	.10		1.31				.10			.55			1.13	.05		T.					.96		.07				.76	.01		.06	5.10
Equality	Ohio	T.	.75	.03	.60	.30	.56		1.75		.12	.56						.30	T.			.03	T.	T.				.10	.13	.70		5.93
Fairfield	Wabash	.10	.09	.18	4.50	.06		.51	.08		.09	.27						T.			.07	.91							.48	.03	.04	7.41
Flora	do	.05	.08	T.	5.33	.04	.03	.05	.06		.95	T.			1.32	T.							.02	.67				T.	.91	.02	T.	9.53
Golconda	Ohio		.35		.60	T.	2.08		T.			.75											1.43						1.93			7.14
Hoopeston	Wabash	.07	.03	.45	.13			.09		.77	2.32	.01		1.10	.20							.25		.35				.83			.02	6.62
McLeansboro	Ohio	.01	.67	.03	2.56		.01	.34	.50			.50										.15	.02	.08					1.60		.29	6.76
Metropolis	do				.76				.26			.40								.04			.12			.02			.90				2.50
Montrose	Wabash	.82	1.59	.37	.47		.99	.04	T.		.20	.18		T.	1.31	1.59		.24				.05							.76	T.	.04	8.65
Mount Carmel	do		.08	.16	2.50	.02		.40				.08			.02				.04			.36	.14						.48				4.28
New Burnside	Ohio	.21		.37	.62		1.35		T.			.13							T.			.15	.16						.15				3.14
Newton	Wabash	.02	.03	.61	.61			.03			.11	.06			.30	.70						.58		.08				.07	.85				4.65
Olney	do		.04	T.	1.63			1.02	.16			.34			.04		T.		.55			T.	.22		.30				.22			.12	4.64
Palestine	do	.16	.10	1.34	1.46		.06		T.		.12				.30	.14		1.60	T.			.72		T.				T.	.83				6.83
Paris	do		1.20		1.43			.78	.27	1.05		.85			2.05				.08				.10						.75				8.56
Philo	do	.39	.20	1.12							.41			.24								T.		.30				.58					3.24
Rantoul	do		.55	.69	.53			.01		.12	1.40	.83			.14							.27	.15		.25					.46				5.40
Rileyville	Ohio																																
Shawneetown	do		.42	.04	.47	.32	.12	.12		1.20		.28											.10	.22						.38		T.		3.67
Tuscola	Wabash																																
Urbana	do	.57	.03	.53					.01	T.	.08											1.62		.30				.39			.15		3.68
Kentucky.																																	
Alpha	Cumberland	.05	.27	.06	.60	.15	.15	T.		T.	.25	.36				.21		.25	.45		T.	T.	.55	T.						T.	T.		3.35
Anchorage	Ohio		.31		T.	.03		.05	.05		.05				1.92	.31		.40		.15	.71	.93	.75		.02								5.68
Bardstown	Salt		.22	.02	1.20	.06	.08	T.	.08	1.02		.32						.18	.05			.53		1.43	T.	.28							5.47
Beattyville	Kentucky		.08		.30	.10	.22	.38				.20	.58					.34				.56	.74		.12	.52					1.52		T.		5.72
Beaver Dam	Green		.89		.98	1.25	T.				.95		.25					.15				.05	.45			.25				.18				5.40
Berea	Kentucky	.21	.26	.02	.01			.23			.17		.07	.14			T.	.26	.37	1.32			T.	.73	.25	.23	.18							4.45
Blandville	Mississippi	.06	.24	.20	.04	1.09														.07		.01		.13			T.							1.84
Bowling Green	Green		.05		.92	2.00	.60	.25	T.			.96								.70	.35													5.83
Burnside	Cumberland	1.74	.24	.02	1.50	.18	.06					.84								1.82	1.22			.39	.04	.43	.08			T.			.20	8.76
Calhoun	Green	.05	T.		2.10	.01	1.28	.05	.02			.01								1.39		.13	.03		.17					.28	T.			5.52
Catlettsburg	Big Sandy	.44	.66	.06	T.	.04	.90		T.		.66	.74	.90							.46	.50		.14	.04	T.	2.58				.16	T.			8.28
Earlington	Green	.68	.10		.88	1.14	.43	.11	T.	.03	T.	T.							T.	.02						.42				.14		T.		3.95
Edmonton	do	.43	.03	.10	1.19	.13	.27	.31	.17	.20	.17	.09	.06				.06	.32	.01	2.40	.02	.01		.04						T.				6.01
Eubank	Cumberland	.17		.60	.20			.15				.39	.28					.16		2.10	.26			1.90						.05		.08		6.34
Falmouth	Licking	1.03	.31		.20	.09		.40				.80								.25				.50			.29			.02		.20		4.09
Farmers	do	1.25	.02			T.					.08							.40	.69			2.70		.23		.63							6.00
Frankfort	Kentucky	.14	.27	.03	.26	.43		.51		.42		.21		1.65					.04	.16	.12		.16	.94		.07	T.							5.41
Franklin	Green			.10	1.21	1.76	.06	.51	.07	.06								.08	T.	1.32		T.		.20	.13									5.50
Greensburg	do	.01			.80	1.04	.02	.12			.05		.90					1.41		1.53				.05		.38				T.	.18			6.49
High Bridge	Kentucky	1.64	.10	.17	1.24	.52		.54						.30				1.26		.11	.49			.57			.12							7.06
Hopkinsville	Cumberland	1.10	.15		.47	1.50	1.25	1.40	.04	.30		.90									.20		.15		.05				.10					7.61

TABLE 2.—*Daily precipitation for July, 1912. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kentucky—Contd.																																	
Irvington	Ohio	T.	T.	T.	1.30		T.	T.			.73	T.							1.61		.94	T.	.63	.19						.07			5.47
Leitchfield	Green	*	.07	*	2.00		.12	.28			.05					.22			1.49		T.	T.		.42					.14				4.79
Lexington	Kentucky	.06	.01	1.05	.22		.02		T.		1.05	T.						1.63	.14		T.	.44	.05		T.	.03				T.	T.	T.	4.70
Loretto	Salt	.38	.10		.41	.91	.02	13			.25					.29			1.09		T.	.10	1.74	.38						T.			5.80
Louisville	Ohio	.48	.07	T.	.10	.01	.03	T.	.64		T.	T.				1.33		.59	.08		.09	1.20	.02	.02					.02				4.68
Marion	do	T.	T.	T.	.57	.20	.08	T.	T.		T.	.09							T.				.09	.28						.33	T.		2.24
Maysville ‖	do	.98	.54	.16	.08	.43	.03	.40		.29	.48	.76	T.	.39					.26	T.		.28	.07			.45				.03		.04	5.67
Middlesboro	Cumberland		.28	.02	.24	1.03	.02				.04	.52				.11			.41	.02			.52			1.45				.17	.04	.38	5.25
Mount Sterling ‖	Licking	.11	.68	.12	.04		.18	.28				1.90	.16				1.02	T.	.22	1.66			1.33			.62				.12		.40	8.84
Owensboro ‖	Ohio		.10		4.25	.43	T.	.02	.50			.04					T.		.13	.21			.17		.04					.13		T.	6.62
Paducah ‖	do	.16	.18	.10	.60		.30	.30				1.30								.56			T.	T.	.06					1.20			4.76
Pikeville ‖	Big Sandy	.20	.25	.15	.30	.40	.15					.80	T.				.50		.15	.80		.10	.70	.05		1.70				T.	.10	.15	6.50
Richmond ‖	Kentucky	T.	.02	.15	.07		.03	.03	.02		.17	.98	.01	.09			1.58		.20	.03			.26										3.64
St. John ‖	Salt			.38	2.45	.40	.14					.38					.15	T.	1.75	.30			.63		.80					.05			7.43
Scott	Licking	.20	.06	T.	.02	.14	.67		.31		.22					.12		2.55	.31				.15	.01		.20				T.			4.96
Shelby City	Kentucky	T.	.71	.13	.24	.12	.34	05	T.	.75	1.25	1.05	T.				.74		.57		T.	.27	.47		.11	T.							6.80
Shelbyville ‖	Salt			.15	1.80					.25									.15	.25			1.30		.15								4.05
Taylorsville	do	.25	.03	.06	.14	T.	T.	T.	.41	.07	.03						.37		.49	.01	T.	1.76	.16	.27		.09							4.14
Williamsburg ‖	Cumberland	.25	.72	.10	.28	.60	.50				.46	.20	.68				.20		2.20	.12			.80	.05		T.				T.	.55	.16	7.87
Williamstown	Licking	.09	.27		.06	.17	.04	.03		.03		.30							.83				.49									.07	2.38
Tennessee.																																	
Ashwood	Tennessee	.75		.08	.63	.18	.10	.15	.15			1.55				.55	T.		1.50	T.			1.25									.15	7.04
Benton	do																																
Birds Bridge ‖	do	.10	.69		1.33	.84	.04		.13			.26				.03				.85			.53	.40		1.20							6.40
Bluff City ‖	do		1.02	.01	1.04	.72			.11	.25		.07	.04							.24	.08	.19	.54	.26		.93					.17		5.67
Byrdstown	Cumberland	.22		.83	1.43	.49	1.98					.45					.70	.10	.30				.20	1.71									8.41
Carthage ‖	do	.07	.65	.30	.38	.70	.25	1.60	.05	.01	.15	.40	.04					10		2.05		.08	T.	.67	.04								7.54
Cedar Hill	do	.27		T.	.50	.65	.30	.17	T.	T.	.02	T.				T.	.60	.01	2.02		.08		.02							.02	.12	T.	4.78
Celina ‖	do	.18	.12		T.	2.80	.98	1.79					.24				.12	.02	.12	.31													6.68
Charleston ‖	Tennessee		.18	T.		.08	.60	.12	.11		.04	.04	1.36				.05		.10	.14	.02					T.							2.84
Chattanooga	do	.18	.05		.02	.34	1.30					1.02	.19			.19	.04	.11	.77	.03			.35		.04							1.18	5.81
Clarksville	Cumberland	.58			.12	.75	.02	.55		T.	T.	T.						T.	.67				.08	T.						.10	T.		2.87
Clinton ‖	Tennessee	.20	.20	.20		.03	.26	T.				.16				.22			.10	.51		T.	T.		.77							.17	2.82
Crossville	do	.07	.24	T.	.27	.06	.69	T.		.26	.70	1.20	.05			.25	T.	.01	.50	.03	.36		.02	1.51	.01								.40	6.63
Dandridge ‖	do	.56	.80			.10	.10						.40							.44	.10		.70			1.10					.20	.10	4.60
Decatur	do	.77	.27	T.		1.20	.41	.01	T.	T.	.01	1.02	.02			.58		.28	.04	.12	T.		.26	.12	T.							.42	5.53
Dickson	Cumberland	1.20				1.30	.21			.08						.13			.12				.68										3.72
Dover	do	1.08	T.	T.	.28	1.28	.12	.42	1.22			.57									.25		T.	T.							T.		5.22
Dunlap	Tennessee	.08	.07		1.20	.07	.18			.10	.02	.11				1.70			.10	3.03				.28								.45	7.39
Elizabethton ‖	do	.25	.29	.06	.05	.60	.04			.41	1.74	.10	.46			.15			.04	.42	.06	.06	.44	.24		.61				.81			6.83
Erasmus	Cumberland	1.16	.05	.20	.27	.06	.18	.01	T.	.32	.05	3.38	.04			.03			.29	.09	.06			T.	T.	.08				.20		.07	6.54
Florence	do	2.10	T.		.96	.37	.94	.03	.15	T.	.15	.05				.04	.03	.15	.28			.18		T.									5.43
Franklin	do	.88	.02		.29	.07	.28	.17	T.		.08	.25				.05		T.	.78		T.	T.		T.		.14				T.			3.01
Halls Hill ‖	do	.87	1.03		.64	.48	.67	.35	.05	.17	.15		.35				1.10		T.	1.10	T.			.30									7.26
Harriman	Tennessee																																
Hohenwald	do	.55	.66	.06	.05	1.04	.30	.10	1.05			1.47				.21		.12	3.10														8.71
Iron City	do	.04				.50	.30	.11	.08		.12	.95		T.		T.		.17	.80				.12									T.	3.19
Jefferson City	do	.08	.63	.08	.07	.18	1.50	.06		.94								.45	1.74		.02	.53								.02		1.30	7.60
Johnson City ‖	do		.82		.50	1.24	T.		.03		T.	.13				.25		.05		.30	.03	.20	.28	.45		.75					.05	.05	5.13
Johnsonville	do	.65	.11		1.10	1.15	.10	.71	1.00	.73		.02					.35	T.	.41				T.										6.33
Kingston ‖	do		.47			.04	.11				.02	2.35	.24						T.	.67	.07				.08								4.05
Knoxville	do	.41	.14	T.	.02	.19	.04			.16		1.62			.01		.01	T.	.28	.18	T.		.60	.07		T.				T.			.59	4.32
Lebanon ‖	Cumberland	1.23	T.		.51	.98	1.58		.47	.08		.13						.27	1.28	T.	T.		.31	T.	T.	T.			T.	T.				6.84
Lewisburg	Tennessee	.28		T.	.02	1.02	.33	1.12	.05	.27		1.36				.27		.18	.64	.26									T.			.56	6.36
Livingston	Cumberland																																
Loudon	Tennessee	T.	.12	.35		T.	T.	T.	.12		.88	.75	.77				.06	T.	T.	.53	.12		.14	T.						T.			3.84
Lynnville	do	.98	T.	T.	.47	1.53	1.07	.39	1.61			.84				.38	T.	1.11	1.40	T.						T.						.72	10.50
McGhee ‖	do		T.	.15	.35						.28	.13	1.30				.46			.25	.28		.22	.25									3.67
McMinnville	Cumberland																																
Maryville	Tennessee					.60		T.	.16	.09		1.90					.55		1.09				T.	T.								1.26	5.65
Mountain City	do	.80	.32	.22		.62				.08		.12	.25						.20	.75	.19		.15			.92					1.00		5.62
Nashville	Cumberland	.76	.03	.50	1.03	.20	.10	.01	.28	.18	.55	.01				.98	T.	.17	.43	T.			.13	.01									5.37
Newport ‖	Tennessee	.42	1.73	.12	.08	.20	.24			.26	T.	.06								1.00	.15		.97	.13		.67	T.				.52	T.	6.55
New River ‖	Cumberland		1.63	.51		.65	.77		.12		.31	.17	T.			1.92	.12	T.	.24	.87			.42	.10									7.83
Palmetto	Tennessee	.21	T.		T.	1.09	1.25	2.21	.15	.08		3.25				.22		.14	.32	.04									T.			.37	9.33
Perryville	do	.66			.74	.38		2.83	1.29	.78		.04						.12	1.32														8.16
Pinewood	do																																
Rogersville ‖	do	.02	.10	.06	.37	.15	.11			T.	T.	2.76	.11					.01	.01	.53		T.	.28	.15		.62				.02	.04	.08	5.42
Rugby	Cumberland	1.10	.10	.12	.70	1.40	.02			.75	.34	.36							2.30				.03	.13								.35	8.15
Savannah	Tennessee	.12			.15	T.	.35	1.00	2.15							.45		T.	.46	.10	T.											.27	4.70
Sevierville	do	.92	1.19	.02	1.09	.02	.05	.05				.10				.10	.07		.64	.17			.33			1.30						1.44	7.39
Sewanee	do	.97	T.		1.24	.37	1.09	.08	.26	T.	T.	.46	T.	T.	T.	.61				.90												1.65	7.63
Sparta	Cumberland	T.	.10	.05	.05		.10		.03	T.	.10	1.05	.10		T.	.28		T.	1.10	.65						T.				T.		T.	3.61
Springville	Tennessee	.44	.12	.01	1.66	1.23	1.53	.51	.11	.01		.01						T.				.84											6.47
Tazewell ‖	do		.11	.31	.40	1.36	.60	.08	.12		.90		.05						.27	.15			1.05		.26	.85	.11			T.		.10	6.72
Tullahoma	do	.37	.28	.09	2.15	1.77	1.02	.82	.11	T.		.93					.10		T.	.04	T.											1.72	9.40
Walling ‖	Cumberland	1.02	2.00	.25	.50	.50	.52	.25	T.	.02	.01	T.	.45	.01	.02	.05	T.	.02	.04	1.25	.30			.35	.01	T.				.01			7.58
Waynesboro	Tennessee	.83	.18		.10	1.12	.22	T.	.43	T.		.04				.42		.25	.90	.05		T.		T.								.10	4.64
Wildersville	do	1.16	.60		T.	.15	.20	1.70		T.								.07	.36														4.24
Worsham ‖	Cumberland	.29	.16	1.54	1.82	1.84	.05		.17		.28							1.20	.83				1.62	.61									10.41
Yukon	Tennessee	.30	.10	.33	.08	1.30	2.13	.05	.06	.01	.68	1.10				.10		T.		1.37												.12	2.73
Alabama.																																	
Bridgeport ‖	Tennessee	.04	.63	.05		.02		.14			.37		.11	.01			.35	.02	.05	1.63										.02			3.44
Decatur ‖	do	.88	.12				.06	.15	3.68	.95	.03	T.	.27					.35	.44	.05	.02												7.00
Florence ‖	do	1.04				.36	.23		.27	.50			2.43					.52	.22	.08													5.65
Guntersville ‖	do	.20	.26	.13		.98	.31	2.70		.06	.04	.02	.04	.12	.41	T.		.04	.03	.10	.05					.51							6.00
Riverton ‖	do		.04		.05	.10	.28			1.08			.30				.92	.06	.49	.03	.28	T.											3.63
Scottsboro ‖	do	T.	.13		.06	.10	1.07		1.23		.03	.41	.02	.34	.03		T.	.18	1.02	.10						.07							4.79
Tuscumbia ‖	do	.93				.27	.03	.08	.16	.23			1.30					.10	.42	.50	.12													4.43
Georgia.																																	
Diamond	Tennessee	.22	.30	.18	.02	.19	.32		T.	.04	.04	1.30		.70	.91	T.	.20	.52	.60	.51	.38	.09	.01		.03								.69	7.25

TABLE 2.—*Daily precipitation for July, 1912. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Carolina.																																	
Altapass	Tennessee																																
Andrews	do		.69	.59	.52	.27	.10			.12		.13		.71	.05	.01	.01		.52	.84	.13		.13	.21								.83	5.86
Asheville	do	.03	T.	.01	.33	.09	.03		.27	1.39	.01	.24			.44	T.	.18	.21	.06	.16	.27					.21				.09		.62	4.64
Banners Elk	do	.12	.10		.12	.24				T.	.47	.17	.10	.55			.19		1.20	.20	.60		.17	.19		2.00					.45	.02	6.89
Blantyre	do	.30			.50	.50	.15			.30	3.00	.15	.05	.30	.20	.01	.35	.02	.01	.35	.04		.01	.25								.20	6.69
Blowing Rock	G. Kanawha	1.55	.10	.03		1.28		.38			1.17	.28		.30		.17	.46	.39	2.60	.94	.45		.14		.06	.54				.52	.02		11.38
Brevard	Tennessee	.09	.47	.36	.12	.10	.50	.40	.08	.05	.07	T.	T.	T.	.03	2.00	.37	.05	.20	.12	.40	.60	.03	.05		.03					.28	.20	6.60
Bryson City ‖	do	.22	.16	.65		.93						.15	.10						.47	.27	.92	.17	.14		.18	.65					.23		5.24
Cullowhee	do	T.	.01	.28	.41	.53	.07	T.	.12	.59	.14	1.55	.01		.08		.18	.09	.05	.05	.13			T.	T.	.35					.07	.77	5.48
Eagle Nest	do	.55	.11	.20		.26	.05		.08	.18	.17	.25		.03			.18		.05	.29	.41	.04		.15		.30						.65	3.95
Hendersonville	do	1.00	.60	.45	.24	.62	.10	.01	.01		.02	.15		.20	.02	.12	.21	.17	.22	.65	.40		2.20	.02		.09						.22	7.72
Highlands	do	.40	.15	1.70	.23	1.35	.80	.10	.70	.10	.52	3.03			1.22	.18	.82	1.00	1.10	1.35	1.68											1.35	17.78
Hot Springs	do	1.40	.42	.05	.42	T.			.10	.38	.37	.28								.29	.09		.09	T.		.77	T.				.03	1.45	6.14
Jefferson	G. Kanawha	.31		.56	T.	.66		T.		T.	.29	T.	.68	.87	.01		.43	.08	.63	.58	.42		.11			.48					1.60	.11	7.82
Marshall	Tennessee	.30	T.		.03	T.				.16	.06			T.	T.		.02	.06	.08	.25	.15	T.	.11			.92						1.36	3.50
Murphy ‖	do				1.12	.07	.77			.18	.70	.10	.59	.01						.42		.20				.05							4.21
Rock House	Savannah	1.59		3.19	.10	.71	.35	.02	.67	.53	2.38	.05	.51		.29	.10	.85	1.30	1.63	.41	.41			T.	T.	T.						.92	16.01
Transon	G. Kanawha	.08				.15				T.	T.	.20	T.		T.	.44	T.	.17	.93	.55					.28					.60	T.	3.40
Waynesville ‖	Tennessee	.09	.54	.68	.17	.10	.02	.03	.03	T.	.06	.21	.37	.02			.02	.25	.01	.33	T.	.11			.09	.40						.02	3.55
Virginia.																																	
Blacksburg	Kanawha	.03			1.55	.19		.45			.55	.57	.60		.23	.03			.59				.06		.08	.39						.23	5.55
Burkes Garden	Tennessee	.45		T.	T.	1.25		.67	.32	T.		T.		T.	T.	T.	.85	T.	.42	T.	.45		.67			1.07				1.05		.23	7.43
Elk Knob	do	.03	.32	.12	.03	.13		.07		.01	.01	.27	T.		.02	.53			.55	.01		T.	.64	T.		.62				.08	T.	.05	3.49
Ivanhoe ‖	Kanawha	.40	.02		T.	.60	.15					.60	.12	T.				T.	T.	.86	T.	T.	T.	T.		.46					.60		3.81
Max Meadows	do	.36		.20	.60					.03	.60	.90	T.					T.	.48		T.				.52					.88	.92		5.49
Mendota ‖	Tennessee	.06		.15	.10	.50					.30	.63	.05						.20	.40	.04	.20	.50	.06		.65				.05		.15	4.04
Mountain Lake	Kanawha			1.50		.94				.25	1.10	.27							.30		.05				.14	.48		T.				.36	5.39
Radford ‖	do	.20			.12	.16	.90		.20			.20	.16							.60			T.	.10	.20	.62						T.	3.62
Speers Ferry ‖	Tennessee	.24	.40	.28		.10	.06				.58	.22	.06						.18	.30			.56	.26	1.94					.02		.12	5.36
Wytheville	Kanawha	.35		.01		.70		.08			.03	.04	.46	.05			.05		.89		.17	.10	.03	.01	.33	.23				.69	.09	.31	4.62

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 3.*

Date.	Pennsylvania.				West Virginia.														Ohio.							
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.§§		Morgantown.		Parkersburg.		Wheeling.§§		Canton.§§		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	83	65	78	58	80	65	73	60	76	60	80	63	80	67	78	69	81	66	90	64	81	55	82	68	82	63	83	60
2....	87	58	86	65	85	63	78	60	81	54	90	60	85	65	86	69	85	65	92	62	86	64	85	68	82	66	82	66
3....	89	61	87	70	87	66	80	60	86	58	93	63	87	67	87	65	85	67	91	65	86	65	84	70	80	67	82	68
4....	89	55	86	68	83	66	83	58	84	60	91	65	83	68	89	66	85	68	93	66	86	65	83	69	82	67	79	69
5....	89	53	86	68	87	67	82	61	82	61	90	64	89	67	83	65	85	68	92	65	91	64	86	68	87	67	87	66
6....	88	55	87	70	90	67	82	58	85	57	92	63	86	67	91	66	87	68	91	65	90	67	80	71	85	68	83	69
7....	89	50	89	70	91	66	83	58	87	58	93	65	90	68	91	66	90	69	95	64	91	64	90	70	89	71	86	68
8....	88	53	91	73	88	66	84	57	90	61	94	64	88	68	93	67	91	71	97	67	92	66	88	70	91	71	85	70
9....	91	54	89	72	90	68	84	60	88	60	92	65	89	68	93	66	89	69	91	67	91	67	89	72	90	69	90	69
10....	91	58	87	66	86	68	83	60	85	65	90	66	83	69	88	69	88	69	92	68	90	69	88	68	86	68	78	68
11....	85	58	82	65	86	67	81	60	82	62	88	65	85	68	85	68	84	65	89	69	84	67	85	70	83	67	86	68
12....	86	51	83	65	84	66	84	59	84	58	90	66	86	66	84	59	85	63	91	63	87	65	89	68	87	64	86	66
13....	88	46	86	66	90	71	86	60	88	60	93	68	89	69	90	62	89	66	91	62	87	60	92	71	90	70	88	70
14....	90	59	89	73	94	68	89	61	91	62	96	66	93	71	91	61	92	73	92	65	92	60	94	75	92	70	92	70
15....	94	66	91	73	94	68	87	62	89	62	97	66	94	71	93	69	94	71	96	70	92	70	91	73	95	70	90	69
16....	83	59	84	70	92	70	87	61	87	64	95	68	90	69	91	67	90	70	87	69	82	59	87	69	84	63	83	63
17....	89	62	86	69	92	70	86	60	85	65	90	66	90	69	91	62	88	71	82	67	88	62	90	70	84	68	85	68
18....	87	65	81	64	88	70	85	64	73	65	90	66	81	70	84	68	83	67	87	70	88	62	86	66	87	61	87	62
19....	72	51	71	55	78	67	77	65	73	53	90	60	78	62	81	57	75	60	79	58	74	50	75	59	73	56	75	56
20....	72	51	74	61	88	60	79	59	79	51	87	57	88	60	83	59	86	61	79	58	73	55	88	65	84	60	85	62
21....	79	57	74	66	88	70	85	62	82	65	89	67	86	63	80	67	85	69	80	60	76	61	84	73	82	69	80	69
22....	81	61	79	64	84	70	80	65	79	60	85	68	85	72	79	63	80	69	84	59	82	59	85	71	81	65	83	68
23....	79	51	77	60	86	63	82	64	81	58	88	61	86	65	81	56	85	64	84	58	83	53	89	67	85	62	85	63
24....	82	60	78	63	91	68	85	61	83	59	93	65	92	67	83	64	92	69	87	60	86	63	96	74	95	70	94	72
25....	81	60	79	62	91	66	85	64	81	63	81	68	86	70	81	64	84	70	87	67	82	65	89	70	85	68	88	67
26....	73	60	72	62	85	66	80	60	70	62	86	66	75	67	79	64	75	65	76	65	72	59	80	62	75	61	76	60
27....	77	46	76	56	78	65	81	61	75	54	84	58	81	63	77	55	78	61	83	54	80	50	84	64	82	60	84	64
28....	79	47	80	58	86	64	82	62	81	50	89	57	85	59	82	55	84	60	87	58	80	55	87	64	84	63	83	65
29....	76	64	77	61	84	59	82	50	77	61	84	65	85	67	79	68	82	66	81	62	79	62	86	71	80	65	83	67
30....	75	50	75	59	83	62	79	60	73	54	81	57	81	62	76	54	79	59	80	53	78	54	84	65	80	60	81	60
31....	82	52	72	58	79	61	76	54	74	56	80	65	79	62	76	57	76	61	82	58	76	57	77	65	74	58	74	58
Mns.	83.7	56.1	81.7	64.8	86.7	66.2	82.3	60.2	81.6	59.3	89.1	64.0	85.6	66.6	84.7	63.5	84.9	66.5	87.4	63.2	84.0	61.1	86.2	68.6	84.4	65.4	84.0	65.8

Date.	Ohio.				Indiana.										Philo, Ill.		Kentucky.									
	Marion.		Waverly.§§		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.				Beattyville.§		Bowling Green.§§		Earlington.§§		Greensburg.§§		Lexington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	87	57	82	60	85	62	82	68	82	64	85	56	83	65	86	68	83	64	84	65	86	62	85	64	79	61	82	65
2....	85	65	82	65	83	63	82	68	80	66	83	67	80	65	79	67	78	65	83	63	86	63	85	66	80	64	77	66
3....	85	67	84	66	81	67	85	68	75	67	81	65	75	66	77	67	78	68	84	62	88	66	92	68	88	65	84	67
4....	85	65	82	64	76	68	86	67	80	68	85	67	86	68	82	68	86	63	85	65	79	66	87	66	88	64	76	67
5....	93	65	86	67	88	65	87	73	87	67	90	63	88	67	86	68	89	70	86	65	87	68	90	70	84	61	82	67
6....	89	67	84	69	88	68	83	71	83	71	86	68	86	69	84	66	85	70	88	65	85	68	88	63	78	66	81	69
7....	92	69	88	68	88	69	81	71	80	70	84	70	86	70	81	71	85	70	90	65	86	65	83	70	78	63	87	68
8....	91	68	89	68	85	70	84	67	77	70	81	66	85	69	80	68	83	69	91	64	87	66	91	66	86	62	85	69
9....	93	67	88	67	90	67	88	68	86	64	89	66	90	67	87	66	90	68	88	65	90	67	93	66	90	66	86	71
10....	88	80	86	68	86	68	85	71	80	67	82	65	81	68	85	71	82	68	86	64	89	67	93	69	89	66	85	66
11....	88	.....	85	66	86	69	88	70	86	68	86	67	90	69	85	68	88	67	88	62	86	66	91	68	90	64	81	66
12....	92	.....	84	65	88	65	88	72	84	68	85	64	86	65	86	65	84	61	91	63	89	65	94	65	89	63	87	65
13....	91	69	87	66	92	71	90	75	89	73	89	72	93	71	91	72	93	72	94	66	94	66	96	68	92	64	88	68
14....	94	61	90	68	94	73	92	77	89	71	89	66	91	67	93	70	90	70	97	67	96	70	97	70	96	67	91	71
15....	93	67	91	70	93	66	94	74	91	66	89	68	92	67	95	74	89	62	95	68	97	71	98	69	96	69	93	70
16....	83	58	89	68	88	65	88	70	80	64	81	62	82	61	86	65	82	58	91	65	95	68	95	68	81	61	88	67
17....	90	64	89	69	82	65	89	72	88	69	86	65	89	67	87	70	86	64	89	67	92	70	94	71	92	67	98	68
18....	90	65	85	68	88	72	87	71	86	65	86	59	87	64	86	68	85	59	84	69	81	69	89	72	.....	67	82	69
19....	75	54	75	58	80	57	79	65	73	58	74	54	77	55	76	60	73	56	78	64	85	65	87	65	82	62	76	60
20....	83	57	85	59	88	61	86	64	85	63	85	59	90	58	88	62	89	58	90	58	90	63	92	66	89	62	87	60
21....	80	66	86	60	83	67	87	75	79	67	78	70	85	72	87	75	86	69	89	66	93	63	93	72	89	67	84	68
22....	83	64	81	69	89	64	85	72	81	61	84	61	84	57	81	65	82	56	88	68	92	72	94	71	92	67	84	68
23....	85	55	84	60	91	65	91	73	87	66	85	61	91	61	89	64	91	66	90	64	92	72	94	70	90	68	88	67
24....	92	69	92	64	94	72	94	76	93	75	92	75	97	74	93	75	96	76	89	69	96	71	96	74	91	68	89	72
25....	88	69	88	71	90	71	89	76	88	67	86	68	89	71	88	75	87	67	92	69	94	72	93	75	94	71	86	72
26....	82	61	77	66	82	69	81	67	78	61	76	56	82	58	83	61	80	57	80	60	85	65	85	63	82	61	75	62
27....	83	57	83	58	85	58	84	64	80	58	83	54	85	54	84	58	82	54	78	57	88	61	91	59	89	57	79	60
28....	83	60	89	60	87	62	89	69	81	65	79	64	82	60	85	62	80	56	86	56	93	61	95	60	89	57	84	63
29....	80	65	85	62	86	67	86	72	82	68	82	65	85	65	85	67	83	66	89	64	94	70	91	69	91	67	87	68
30....	81	56	81	58	87	65	85	68	82	62	82	55	87	56	85	64	84	57	88	59	89	64	92	61	88	60	81	64
31....	73	59	77	59	78	59	81	68	74	59	74	55	79	59	79	63	78	59	84	62	87	66	86	67	81	63	79	63
Mns..	86.4	63.7	85.0	64.7	86.5	66.1	86.3	70.4	82.8	66.1	83.8	63.6	85.9	64.7	85.1	67.2	84.7	64.0	87.6	64.1	89.4	66.7	91.3	67.5	87.4	64.2	84.0	66.6

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 3*—Continued.

Date.	Kentucky.						Tennessee.														Decatur, Ala.§§		Asheville, N. C.		Virginia.			
	Louisville.		Maysville.§§		Williamsburg.§§		Chattanooga.		Johnson City.§§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.						Blacksburg.		Wytheville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	69	82	64	83	63	83	64	89	63	83	66	79	65	83	66	80	63	84	60	86	65	79	63	66	61	70	60
2....	82	68	86	62	87	65	79	67	85	64	80	66	82	68	81	68	83	65	83	67	86	66	75	61	75	60	72	59
3....	87	70	90	64	84	64	82	68	85	64	83	66	84	67	83	68	84	66	87	66	86	66	78	64	81	57	82	60
4....	78	69	86	66	82	64	82	67	84	65	82	67	79	67	84	69	79	66	89	69	89	70	81	62	80	60	82	60
5....	88	69	90	66	78	61	82	67	79	66	80	69	80	70	79	68	85	67	82	67	90	70	72	65	75	64	72	63
6....	84	70	88	68	86	67	80	67	90	63	84	68	80	70	84	67	83	69	85	67	81	70	78	63	78	53	80	57
7....	88	69	93	65	88	60	87	65	89	62	87	66	84	68	80	67	89	63	85	68	88	67	79	65	82	53	83	58
8....	90	66	92	66	91	64	84	69	85	61	87	66	80	70	78	68	86	64	85	66	90	68	81	62	83	52	84	59
9....	91	69	92	65	88	65	84	70	84	65	86	69	84	67	84	67	84	65	87	65	86	67	81	63	82	63	80	61
10....	89	73	91	67	85	65	84	68	86	64	86	68	83	68	84	68	86	67	87	67	86	68	81	64	85	64	83	63
11....	86	71	87	65	86	65	81	68	89	66	80	66	83	68	77	67	82	68	87	68	89	70	82	63	80	62	80	62
12....	91	72	89	63	88	64	83	67	86	64	85	68	86	68	84	65	86	66	88	64	89	67	81	63	84	60	83	62
13....	93	73	93	66	93	65	88	68	89	65	90	70	91	69	89	70	90	66	92	65	91	74	81	62	84	60	88	60
14....	95	75	97	67	95	66	90	70	92	65	92	70	93	72	91	70	92	68	93	66	90	71	84	65	86	63	88	63
15....	94	68	98	69	93	68	86	71	94	66	90	70	92	70	90	72	87	67	93	68	92	72	83	64	82	61	86	65
16....	91	70	94	68	92	66	84	69	92	65	89	68	89	70	87	69	91	66	89	68	89	71	79	65	86	61	86	62
17....	90	73	90	69	95	66	84	73	91	66	89	69	86	72	85	71	90	70	83	68	84	72	77	68	85	61	84	61
18....	88	71	88	67	81	70	83	71	86	71	83	71	83	71	86	71	83	71	83	67	87	72	79	67	83	64	79	64
19....	80	62	81	59	83	68	83	71	85	69	84	71	84	70	84	71	86	69	86	70	88	73	79	66	80	65	80	66
20....	91	65	93	56	96	65	90	72	82	70	89	71	87	70	86	72	89	69	87	71	90	72	78	68	71	62	67	60
21....	86	73	88	61	91	67	91	72	91	69	90	74	91	76	89	70	91	68	92	70	94	72	87	67	86	65	83	64
22....	87	72	89	70	90	63	90	74	88	61	89	72	89	77	90	72	88	71	93	70	90	74	85	67	80	70	80	66
23....	93	70	91	63	91	70	91	72	90	65	88	72	91	74	90	75	89	70	94	69	94	74	85	65	83	59	83	64
24....	94	74	97	65	92	70	90	72	90	68	91	73	91	75	90	74	91	70	93	73	95	76	87	65	84	60	83	62
25....	91	74	91	67	90	74	93	77	89	69	92	71	92	75	94	75	90	74	95	73	96	75	84	66	83	65	80	65
26....	83	66	80	62	78	63	85	69	82	64	83	66	82	71	84	65	82	64	85	64	87	70	77	63	75	66	70	62
27....	84	64	87	60	87	58	83	66	83	56	83	61	84	65	83	59	83	57	83	58	86	64	79	55	78	51	76	55
28....	91	66	91	57	88	64	89	64	82	57	88	64	89	64	87	60	89	59	87	57	92	63	86	58	83	50	81	52
29....	90	71	90	67	90	60	89	67	88	62	89	69	91	72	89	66	90	65	90	64	91	68	84	61	83	60	79	62
30....	86	68	86	59	83	60	86	68	84	66	86	68	87	68	88	63	87	62	87	60	89	68	79	64	78	60	76	58
31....	82	66	82	60	83	60	86	64	81	57	82	63	85	68	89	66	87	62	90	64	96	67	74	56	80	51	79	56
Mns..	88.0	69.5	89.4	64.3	87.6	64.8	85.5	68.9	86.8	64.5	86.1	68.3	85.8	69.8	85.5	68.4	86.5	66.4	87.9	66.4	89.3	69.7	80.5	63.5	80.7	60.1	80.0	61.0

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 4, THE LAKE REGION.

J. H. ARMINGTON, Acting District Editor.

GENERAL SUMMARY.

The weather of July, 1912, in the Lake region presented several features of interest. The month was divided into two almost equal periods, the first of temperatures above, and the second of temperatures below, normal values. Precipitation was quite irregularly distributed, although comparatively frequent over the western sections throughout the month, and over the district generally after the first decade. An unusually large number of severe thunderstorms occurred, with heavy rainfalls. Damage by rain, wind, or lightning in connection with these storms was reported from practically all portions of the district. There was a number of instances of loss of life, while damage to buildings and trees was quite common. The frequent rains from the Lake Erie region westward interfered considerably with harvesting and occasioned some loss of crops.

Over the western sections of the district the relative humidity was abnormally high for the season, causing pronounced sultriness, especially during the period of high temperatures. At Chicago, where a continuous record of relative humidity is maintained, the average of the bihourly readings for July, 1912, was 72.4 per cent, higher than that of July, 1911, by 14.1 per cent. The means of the bihourly readings were as follows:

	2 a. m.	4 a. m.	6 a. m.	8 a. m.	10 a. m.	12 m.	2 p. m.	4 p. m.	6 p. m.	8 p. m.	10 p. m.	12 m.
July, 1912	78	79	80	75	70	68	66	64	68	71	74	76
July, 1911	65	68	67	60	52	51	51	51	52	60	61	64

The weather conditions of the first half of the month—high temperatures over the eastern and western sections, with only a few light, scattered showers in the former area, and comparatively frequent, heavy rains and excessive humidity over the latter—are easily traceable to the general pressure distribution of that period. There was a remarkable persistency of high atmospheric pressure over the Atlantic coast, and a gradual decrease thence westward to a region of low barometer in the great central valleys. The slope of the isobaric surfaces across the Lake region was, on the whole, very faint, and the resultant light winds over the New York and Vermont sections permitted the more than average sunshine greater effectiveness in heating the surface strata. From lower Michigan westward the importation of warm, moist air from the southward along the front of the low pressure area maintained high temperatures and humidity and occasioned the greater number of showers and thunderstorms. Between, immediately to the south and west of Lake Erie, there appeared a "neutral" zone, where as a rule moderate temperatures prevailed, none of the regular Weather Bureau stations therein reporting a single day with mean temperature exceeding the normal by more than 8°, while in the regions on either side departures of +10° to +14° were frequent.

After the breaking up on the 14th and 15th of the pressure distribution described above, the general storm movement was more active, but the weather of the district was dominated chiefly by high pressure areas. Low temperatures for the season prevailed until the close of the period, unbroken over the eastern sections, and only moderated in the regions of Lakes Michigan and Superior on the 24th and 28th by depressions which passed across the northern limits of the upper lakes. During this period rainfall was frequent, and in many localities the falls were exceptionally heavy.

The following table presents the chief features of meteorological interest in the various portions of the district:

Portions of States.	Mean temperature.	Departure.	Mean daily range.	Mean precipitation.	Departure.	Greatest precipitation in 24 hours.	Number of days. With 0.01 inch or more.	Clear.	Partly cloudy	Cloudy.	Prevailing wind direction.
Minnesota	64.4	−0.7	17.9	2.08	−1.99	0.58	10	15	10	6	ne.
Wisconsin	68.0	−0.6	17.0	6.35	+3.54	7.39	12	13	12	6	se.
Illinois	72.9	+0.5	13.2	3.86	+0.22	1.87	9	8	15	8	sw.
Indiana	73.1	+0.1	18.1	3.86	−0.20	3.04	10	12	11	8	sw.
Upper Michigan	64.7	+0.3	18.4	2.58	−0.96	2.15	9	12	11	8	s.
Lower Michigan	69.3	−0.8	17.9	4.39	+1.42	4.30	10	10	13	8	sw.
Ohio	72.7	−0.3	14.3	5.64	+1.90	3.30	11	10	14	7	sw.
Pennsylvania	70.4	−1.4	12.9	3.09	−0.12	1.33	12	4	19	8	s.
New York	68.7	−0.1	18.6	2.94	−1.19	3.02	9	15	12	4	w.
Vermont	67.8	−0.5	24.0	2.73	−1.21	1.20	10	14	12	5	s.

TEMPERATURE.

Except in a few localities, the mean temperatures of the month were below the July normals save in upper Michigan. The departures, however, seldom exceeded 1° and in many instances were less than ½°. These seasonal means are not, as might be expected, the result of seasonal conditions from day to day, but represent a balance between the heat of the first half of the month and the cold of the last half. The absolute range for the district was 78°.

The hot period of the first half of July culminated on the 6–9th generally, although a number of stations, especially in northern Ohio, reported their maximum temperatures on other dates. Readings of from 90° to 99° were made in all portions of the district, but 100° occurred at only one station—Deer Park, Mich., on the 6th. West of New York State the coldest weather of the month was experienced on the 16th–19th, under the influence of pronounced areas of high atmospheric pressure, and frosts occurred in the northwestern sections. Some damage resulted in various places, the frosts being reported as killing in the Knife River Valley of Minnesota, Florence County, Wis., and in portions of

upper Michigan. Killing frosts or freezing temperatures occurred also during the month at Castile, Gabriels, Lake Placid Club, Angelica, Nehasane, and Tupper Lake, all in the highlands of New York. In this section of the district and in that of Vermont the lowest temperatures were recorded for the most part on the 1st, just before the period of hot weather set in. The lowest reading made in any portion of the Lake region during July was 22°, at Seney, in the upper peninsula of Michigan, on the 16th.

PRECIPITATION.

Precipitation was below the normal over the Lake Superior region and from the Pennsylvania section eastward. The departures reached about −1.20 inches in New York and Vermont and nearly −2 inches in the extreme northwest. Throughout the remainder of the district, in general, the amounts received were greater than the seasonal average and were exceptionally heavy in portions of Wisconsin, lower Michigan, and Ohio. In eastern Wisconsin out of 30 stations 18 reported monthly amounts of 6 inches or more; in northern Ohio out of 30 stations 13 received 6 inches or more; while several stations in Wisconsin and lower Michigan recorded more than 10 inches. In northern Indiana, although the table shows a deficiency of −0.20 inch, it is probable that were normals available for the entire number of stations in that section the average would show an excess rather than a deficiency.

As previously stated, but little rain fell in the eastern portions of the district until after the close of the first decade, and droughty conditions continued from the previous month. The streams in some localities became very low, and fear was entertained that industries depending upon water power would be forced to suspend operations even in the latter portion of the month, when showers were frequent, as most of the water which fell was retained in the overdry soil. Except in the extreme northwestern sections, the remainder of the district was visited by frequent rains during the whole month and many of the individual falls were excessive. On the 23d–24th 7.31 inches fell in 24 hours at Cecil, Wis., and 6.31 inches at Manitowoc, in the same State. At the latter place the observer reports the amount as the greatest 24-hour fall in 50 years of record.

The 6th–7th, 13th–16th, 20th–21st, 23d–24th, and 28th–30th marked the periods of heaviest rainfall, and thunderstorms were numerous on these dates. In lower Michigan the severity of these storms was especially pronounced on the 13th and 28th. A special report is printed below, descriptive of a small tornado which passed through Grand Rapids on the former date. On the 28th at Harrison, in Clare County, a severe thunderstorm with high winds was accompanied by heavy hail which completely covered the ground and in places was banked to a depth of 12 to 18 inches.

MISCELLANEOUS.

During dense fog on the southern end of Lake Huron on the early morning of the 14th the steamer *Northern Queen* rammed the steamer *J. G. Grammar*, which was lying at anchor north of the Corsica Shoal Lightship. The injured vessel sank within a few minutes, but was subsequently raised. None of the crew was lost. Dense fog also occurred in several other localities during the course of the month, but no further reports of damage from this cause have been received.

JULY, 1912, LAKE LEVELS.

The following data are from the report of the United States Lake Survey office:

Lakes.	Above tidewater, New York.
	Feet.
Superior	602.26
Michigan-Huron	580.48
Erie	572.56
Ontario	247.01

Lake Superior is 0.04 foot higher than last month, 0.64 foot higher than a year ago, 0.34 foot below the average stage of July for the last 10 years, 1.56 feet below the high stage of July, 1876, and 0.78 foot above the low stage of July, 1879. It will probably rise 0.1 foot during August.

Lakes Michigan-Huron are at the same stage as last month, 0.59 foot higher than a year ago, 0.62 foot below the average stage of July for the last 10 years, 3.10 feet below the high stage of July, 1876, and 0.60 foot above the low stage of July, 1896. They will probably fall 0.1 foot during August.

Lake Erie is 0.08 foot lower than last month, 0.81 foot higher than a year ago, 0.30 foot lower than the average stage of July for the last 10 years, 1.85 feet below the high stage of July, 1876, and 1.10 feet above the low stage of July, 1895. It will probably fall 0.2 foot during August.

Lake Ontario is 0.33 foot lower than last month, 1.47 feet higher than a year ago, 0.16 foot higher than the average stage of July for the last 10 years, 1.71 feet below the high stage of July, 1863, and 2.42 feet above the low stage of July 1895. It will probably fall 0.3 foot during August.

TORNADO AT GRAND RAPIDS, MICH.

[By C. F. SCHNEIDER, Section Director.]

During the early morning of Saturday, July 13, 1912, a thunderstorm of considerable severity occurred, beginning about 3.30 a. m. and ending at 10 a. m.

Shortly after 4 a. m. a small tornado passed through the center of the city, apparently touching the ground in only one place, but being near enough to the earth to cause serious damage to trees and small buildings over a path about a mile in length and varying from 200 to 1,000 feet in width. However, the path of great destruction was not over 50 to 75 feet wide.

The preceding day had been warm and sultry and the temperature did not fall as rapidly as usual during the night, the thermometer registering 76° at 4 a. m. There was a fall of 9° within 15 minutes immediately after the passage of the tornado.

The destructive effect of the tornado was first manifested at the southern boundary of John Ball Park, in the extreme southwestern part of the city. At this point several trees were uprooted and one was carried about 10 feet and hurled across the cables of the Grand Rapids & Muskegon Power Co., bringing poles and wires down in the street. The greenhouses in the park were damaged by falling branches and poles, and about one block east a small barn was overturned.

From this point to the river the storm passed through a rather thinly built-up section and did some damage at intervals. One house in process of construction was blown from its foundation and a barn was overturned.

The tornado then crossed the river and apparently dropped on the baseball grounds with full force. It unroofed the grandstand and carried sections of the roof northward from 50 to 100 feet, dropping them in the midst of an assembled crowd of farmers, grocers, and hucksters at the market. The whirling, funnel-shaped cloud was plainly seen, but owing to the darkness it had approached so near before observed that no effort could be made to get out of its path.

Through the crowd it swept in a northerly direction, its path being 50 to 75 feet wide. Wagons and automobiles were overturned and piled up, horses stampeded, and a scene of indescribable confusion ensued. Two horses were killed by the falling sections of roof from the grandstand. Nine people were injured severely, mainly by runaway teams. Many were bruised and cut by flying splinters and the general overturning of everything in the storm's path. Sheds on the north side of the market were unroofed and sections of the roofing carried 100 feet or more.

The tornado appears to have raised at this point and not again to have touched the earth, but beginning on Sheldon Avenue, just east of Monroe Avenue, about six blocks northeast of the market, it was near enough to the ground to prostrate trees in a path about two blocks wide, extending eastward four blocks. No evidence of a twisting action could be discerned at this point, as the trees all fell toward the northeast.

The local office of the Weather Bureau is about three-fourths of a mile northeast of the market and about four blocks north and slightly west of the point on Sheldon Avenue where the destruction of shade trees began. At 4.13 a. m. the wind shifted from south to west and immediately increased to a maximum velocity of 31 miles per hour, the extreme velocity for one minute being 33 miles per hour at 4.15 a. m. Very heavy rain fell from 4.09 to 4.24 a. m., the rainfall for 15 minutes being 0.87 of an inch. The barograph trace showed no unusual features other than those common to severe thunderstorms. There was a decrease of 0.14 of an inch in pressure between midnight and the beginning of the storm and a sudden rise of 0.09 as the storm arrived.

There was another area of considerable damage to trees several blocks south of the path of the tornado, possibly due to another whirl which failed to touch the earth at any point.

TABLE 1.—*Climatological data for July, 1912. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																				
Cloquet	Carlton	800	1	63.6	.....	90	7	31	19	41	1.90	.....	0.58	0	9	...	...	...	w.	W. H. Kenety.
Duluth	St. Louis	1,133	41	62.6	− 3.4	88	27	43	15	35	2.24	− 1.41	0.54	0	13	13	13	5	ne.	U. S. Weather Bureau.
											2.16	.....	0.49	0	8	23	8	0	.....	M. H. Schussler.
Floodwood	do	1,257	6	.....	.....	...	...	...	...	...	1.79	.....	0.47	0	7	19	7	5	s.	Oliver Iron Mining Co.
Stephens mine	do	1,500	5	66.4	.....	95	6	31	19	47	2.17	− 2.04	0.50	0	10	3	16	12	ne.	G. W. Watts.
Two Harbors	Lake	614	18	62.8	− 0.8	90	7	39	16	47	2.17	− 2.04	0.50	0	10	16	8	7	se.	Oliver Iron Mining Co.
Virginia	St. Louis	1,434	18	66.7	+ 2.0	90	5†	35	19	39	2.25	− 2.53	0.40	0	10	16	8	7	se.	
Wisconsin.																				
Appleton	Outagamie	795	11	72.2	+ 2.1	97	6	46	16	33	8.76	+ 3.80	3.34	0	13	14	14	3	s.	Wm. O. Thiede.
Ashland	Ashland	647	21	67.7	− 0.3	93	6	39	16†	42	2.13	− 1.94	0.68	0	10	14	10	7	ne.	Sam Wheeler.
Bayfield	Bayfield	635	3	67.2[a]	.....	94[a]	6	45[m]	19	36[a]	2.03	.....	0.52	0	7	12[m]	0[m]	6[m]	sw.	Frank Kern.
Cecil	Shawano	804	14	67.9	− 1.0	94	6	42	19†	39	11.88	+ 8.42	7.39	0	14	12	14	5	se.	Louis W. Schmidt.
Cornucopia	Bayfield	.....	0	64.2	.....	88	7	35	19	40	1.90	.....	0.65	0	11	6	17	8	sw.	Reed Fruit Co.
Crandon	Forest	1,060	17	66.2	− 0.6	90	6	38	19	35	4.55	+ 1.00	0.99	0	15	13	10	8	nw.	Frank Shoemaker.
Florence	Florence	1,293	21	66.0	+ 0.4	93	6	35	16	40	2.56	− 1.54	0.51	0	10	20	4	7	se.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	26	70.6	+ 0.6	98	6	44	19	40	7.86	+ 4.33	2.44	0	12	25	4	2	s.	Edward A. Seeley.
Grand River Locks	Marquette	770	16	70.8	.....	95	6	41	16	33	5.18	+ 0.64	2.96	0	8	27	3	1	s.	Jerry Parkinson.
Green Bay	Brown	617	26	69.2	− 0.3	94	6	48	19	27	7.46	+ 3.95	4.39	0	17	2	18	11	s.	U. S. Weather Bureau.
High Falls	Marinette	810	0	68.4	.....	95	6	35	19	38	5.05	.....	1.50	0	14	12	11	8	se.	No. Hydro-Elec. Power Co.
Iron River	Bayfield	1,096	3	67.3	.....	94	5	38	19	39	2.28	.....	0.37	0	14	17	10	4	s.	Winfield E. Tripp.
Kewaunee	Kewaunee	590	3	64.0	.....	91	9	46	19	35	9.30	.....	4.92	0	11	14	6	11	s.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	61	65.4	− 2.1	94	9	45	19	32	12.90	+ 9.33	6.31	0	14	4	17	10	se.	Johanna Lüps.
Menasha	Winnebago	764	15	.....	.....	...	...	...	...	...	10.17	+ 6.67	2.62	0	12	24	2	5	se.	Geo. T. Allanson.
Menominee Falls	Waukesha	842	3	69.6[a]	.....	96[a]	5	43[a]	16	39[a]	4.92	.....	2.34	0	10	19[a]	10[a]	1[a]	s.	Arthur H. Christman.
Milwaukee	Milwaukee	681	42	69.2	− 0.5	92	5	53	17	27	4.92	+ 1.91	2.19	0	11	10	15	6	se.	U. S. Weather Bureau.
New London	Outagamie	762	16	70.2	0.0	95	6	45	16	32	8.69	+ 4.22	3.13	0	14	10	14	7	se.	August H. Pape.
Oconto	Oconto	590	21	68.2	− 0.8	92	6	44	16†	30	9.43	+ 6.11	4.21	0	13	15	9	7	s.	Wm. K. Smith.
Oshkosh	Winnebago	744	23	71.2[a]	− 0.3	97[a]	6	46[a]	19	33[a]	7.01	+ 2.93	1.95	0	12	18	12	1	se.	Evan Vincent.
Pine River	Waushara	900	17	70.5	+ 0.5	95	6	45	17	31	9.08	+ 4.94	2.73	0	14	3[L]	15[L]	1[L]	se.	Geo. H. Carpenter.
Plum Island	Door	588	4	65.4	.....	88	9	45	19	26	3.50	.....	0.80	0	16	9	10	12	s.	Geo. C. Robinson.
Plymouth	Sheboygan	843	2	68.8	.....	95	6	44	16	38	6.12	.....	2.96	0	13	13	14	4	s.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	19	67.0	− 1.4	94	9	46	16†	32	6.34	+ 3.01	1.63	0	10	15	11	5	se.	Richard C. Kann.
Racine	Racine	633	15	69.2	− 2.0	91	24	48	19	29	6.49	+ 2.99	2.35	0	11	14	12	5	se.	Daniel Davis.
Ripon	Fond du Lac	935	2	70.8	.....	96	6	46	16	32	7.86	.....	2.30	0	13	11	17	3	se.	Ripon College.
Sheboygan	Sheboygan	831	13	67.9	− 1.6	97	9	48	18	35	6.44	+ 2.85	2.77	0	11	14	15	2	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	13	63.8	− 1.8	84	13	36	18	28	7.27	.....	2.87	0	15	7	17	7	nw.	Adam N. Dier.
Superior	Douglas	671	3	62.4	.....	87	27	41	19	35	1.39	.....	0.25	0	15	8	18	5	ne.	Edward B. Banks.
Waupaca	Waupaca	857	17	69.8	− 0.9	97	6	44	16†	35	8.87	+ 5.39	2.18	0	14	12	8	11	sw.	James H. Flagg.
Illinois.																				
Chicago	Cook	823	42	72.9	+ 0.5	92	5	57	16	24	3.86	+ 0.22	1.87	0	9	8	15	8	sw.	U. S. Weather Bureau.
Evanston	do	601	....	72.2	.....	93	5	54	16	26	3.15	+ 0.18	0.71	0	10	11	8	12	.....	City of Evanston.
Indiana.																				
Auburn	Dekalb	874	16	72.2	0.0	92	15†	46	19	32	3.10	− 0.53	0.90	0	7	10	6	15	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	3	74.1	.....	93	24	53	19	27	5.55	.....	2.56	0	15	10	18	3	sw.	Henry M. Reusser.
Elkhart	Elkhart	801	10	.....	.....	...	...	...	...	...	.....	.....	.....	...	...	...	...	...	...	Dr. Miles Medical Co.
Fort Wayne	Allen	856	16	73.2	− 0.3	90	24	53	19	23	3.38	− 0.28	1.13	0	10	10	17	4	sw.	U. S. Weather Bureau.
Hammond	Lake	598	21	73.5	+ 0.4	94	4†	49	19	37	2.99	+ 0.22	1.04	0	6	7	17	7	.....	Carson W. Whitney.
Howe	Lagrange	886	7	72.8	.....	92	8†	48	19	34	4.69	.....	1.39	0	8	19	0	12	.....	James E. Zook.
Notre Dame	St. Joseph	712	1	71.0	.....	90	6	51	19	24	6.43	.....	3.04	0	12	16	14	1	n.	U. S. Weather Bureau.
Whiting	Lake	606	3	73.0	.....	96	5	56	22	27	3.43	.....	1.19	0	11	18	7	6	sw.	D. H. Boyd.
Michigan—Upper Peninsula.																				
				.....	.....	...	...	...	...	...	1.20	− 1.37	0.40	0	6	12	0	19	w.	D., S. S. & A. Ry.
Baraga	Baraga	623	10	.....	.....	...	...	...	...	...	.....	.....	.....	0	....	17[b]	3[b]	9[b]	sw.	Frank McMonigal.
Bergland	Ontonagon	1,300	2	67.0	+ 2.4	97[b]	7	34[b]	21	47[b]	.....	.....	.....	...	...	...	...	...	...	...
Blaney	Schoolcraft	.....	4	.....	.....	...	...	...	...	...	.....	.....	.....	...	...	...	...	...	...	E. S. Grierson.
Calumet	Houghton	1,246	24	63.4	− 0.9	87	8	44	15	26	4.47	+ 1.66	1.00	0	12	18	9	4	e.	U. P. Experiment Station.
Chatham	Alger	875	11	62.1	− 1.2	93	6	29	16†	45	1.76	− 2.20	0.55	0	10	17	6	8	n.	Mrs. Sarah E. McGaw.
Deer Park	Luce	610	11	63.8	+ 2.2	100	6	37	16	44	0.50	− 2.36	0.40	0	2	12	4	15	nw.	Linton Melvin.
Detour	Chippewa	585	11	.....	.....	...	...	...	...	...	.....	.....	.....	...	...	...	...	...	...	John Nolen.
Eagle Harbor	Keweenaw	622	13	62.0	+ 0.3	85	3†	46	21	34	2.92	+ 0.28	0.57	0	10	11	13	7	w.	U. S. Weather Bureau.
Escanaba	Delta	612	39	64.0	− 2.5	88	9	41	19	26	1.25	− 2.09	0.30	0	12	8	10	13	s.	W. B. Hatfield.
Ewen	Ontonagon	1,147	11	65.4	+ 0.6	94	5	32	19	42	1.26	− 1.51	0.52	0	10	15	2	14	sw.	Mrs. Lena Truedell.
Grand Marais	Alger	610	11	62.6	+ 1.2	91	6	43	1	35	1.06	− 1.89	0.40	0	6	20	6	5	s.	T. A. Green.
Green	Ontonagon	622	1	69.6	.....	94	10	55	1†	33	3.93	.....	1.98	0	2	16	10	5	.....	U. S. Weather Bureau.
Houghton	Houghton	668	11	65.2	− 0.5	90	8	47	19	29	5.16	+ 2.06	1.58	0	14	9	10	12	w.	D., S. S. & A. Ry.
Humboldt	Marquette	1,536	15	64.0[b]	+ 1.9	93[b]	6	30[b]	16†	39	3.74	− 0.71	1.50	0	14	12	17	2	sw.	Chapin Mining Co.
Iron Mountain	Dickinson	1,111	11	67.4	+ 1.1	94	6	38	16†	39	2.49	− 3.05	0.65	0	8	18	9	4	nw.	Victor D. Laing.
Iron River	Iron	1,504	15	65.4	− 1.0	93	6	31	19	44	1.74	.....	0.43	0	7	20	6	5	sw.	J. V. Brennan.
Ironwood	Gogebic	1,520	9	66.7	.....	91	5	40	19	33	3.20	− 1.12	1.00	0	10	7	20	4	sw.	Cleveland Cliffs Iron Co.
Ishpeming	Marquette	1,536	12	65.6	+ 1.1	94	6	38	19	35	.....	.....	.....	...	...	...	...	...	...	J. A. Malone.
Isle Royale	Keweenaw	610	5	.....	.....	...	...	...	...	...	1.52	− 2.60	0.93	0	8	3	16	12	w.	M. I. S. P. Comm.
Mackinac Island	Mackinac	831	11	64.3	+ 0.6	91	8	41	19	33	2.63	.....	0.56	0	10	20	1	10	s.	Herman Johnson.
Maple Ridge	Delta	.....	6	63.6	.....	92	6	34	16	45	3.42	+ 0.32	2.07	0	10	4	20	7	nw.	U. S. Weather Bureau.
Marquette	Marquette	734	41	65.4	+ 0.5	98	6	45	16	38	6.32	+ 2.53	1.96	0	8	19	9	3	se.	Chicago & North Western Ry.
Menominee	Menominee	581	13	67.8	− 0.2	94	6	46	19	27	1.41	− 1.44	0.42	0	11	12	14	5	s.	Albert Oas.
Munising	Alger	631	15	64.2	+ 1.9	98	6	36	16	39	1.15	− 1.57	0.27	0	8	7	19	5	a.	John Brown.
Newberry	Luce	773	10	63.6	− 0.1	92	6	35	19	41	.....	.....	.....	...	...	3	26	2	s.	Chicago & North Western Ry.
Powers	Menominee	868	12	66.0	− 0.9	95	6	31	19	44	1.50	− 1.66	1.50	0	1	15	12	4	w.	D., S. S. & A. Ry.
St. Ignace	Mackinac	593	22	64.7	0.0	89	6	42	19	34	0.80	− 1.95	0.20	0	10	6	15	10	e.	U. S. Weather Bureau.
Sault Ste. Marie	Chippewa	614	24	62.6	+ 0.7	93	6	40	16	35	1.11	.....	0.34	0	5	10	17	4	s.	Western Land Securities Co.
Seney	Schoolcraft	730	0	62.6	.....	93	5	22	16	48	3.12	− 1.44	1.12	0	10	...	...	...	.....	D., S. S. & A. Ry.
Thomaston	Gogebic	1,347	15	65.4	+ 0.7	93	5	29	19	43	6.59	.....	2.15	0	15	12	17	2	sw.	R. S. Schultz, jr.
Victoria	Ontonagon	1,263	2	67.1	.....	92	5	42	16	33	3.24	.....	0.70	0	13	5	14	12	sw.	B. N. Grant.
Watersmeet	Gogebic	.....	3	65.7	.....	95	6	29	19	44	0.89	− 2.19	0.45	0	9	14	5	12	se.	Robert Carlson.
Whitefish Point	Chippewa	610	12	59.7	+ 0.9	78	6†	38	16	29	.....	.....	.....	...	...	...	...	...	...	...
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	34	72.8	− 1.5	94	9	46	19	32	4.21	+ 0.63	1.50	0	7	2	21	8	sw.	H. E. Hubbard.
Allegan	Allegan	698	21	72.4	+ 0.6	96	5†	45	20	38	6.25	+ 3.48	1.24	0	10	1	20	10	w.	Pere Marquette R. R.
Alma	Gratiot	750	25	68.6	− 1.3	90	6	40	19	36	6.95	− 3.99	2.08	0	14	9	16	6	nw.	P. M. Smith.

TABLE 1.—*Climatological data for July, 1912. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Lower Peninsula—Continued.																				
Alpena	Alpena	609	39	64.9	− 0.9	86	9	43	19	26	2.57	− 0.49	0.73	0	9	8	17	6	se.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	32	71.0	− 0.7	91	9	46	19	37	3.34	+ 0.13	1.01	0	11	8	16	7	nw.	University of Michigan.
Arbela	Tuscola	728	16	69.4	− 1.6	93	9	40	19	38	6.70	+ 3.70	3.65	0	11	3	13	15	sw.	Wm. Atkin.
Battle Creek	Calhoun	822	28	70.4	− 2.9	91	9	47	16†	31	2.89	− 0.52	1.11	0	9	8	16	7	sw.	Elmer E. Sager.
Bay City	Bay	593	16	70.4	− 0.9	95	7	43	18	39	5.76	+ 2.18	1.90	0	10	.....	.....	.....	sw.	Pere Marquette R. R.
Benzonia	Benzie	832	15	67.2	− 0.7	93	6	38	19	34	4.19	+ 1.39	0.67	0	13	11	16	4	sw.	Wallace Nutting.
Berlin	St. Clair	.....	23	70.2	+ 0.4	94	9	44	19	34	4.39	+ 1.57	2.46	0	15	2	25	4	sw.	R. O. Gould.
Big Rapids	Mecosta	906	16	68.0	− 0.5	90	6	40	19†	31	10.23	+ 6.55	3.62	0	14	3	21	7	w.	Supt. Waterworks.
Blissfield	Lenawee	687	0	72.2	.....	93	14	46	18	41	2.33	.....	0.74	0	12	14	11	6	sw.	Harry Watson.
Bloomingdale	Van Buren	.....	8	70.4	.....	94	5	46	19	32	5.07	.....	2.10	0	11	17	7	7	nw.	John M. Haven.
Cadillac	Wexford	1,293	3	67.3	.....	89	6	40	19	31	4.55	.....	0.88	0	12	10	14	7	n.	Cadillac W. & L. Co.
Cassopolis	Cass	703	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	w.	Michigan Central R. R.
Charlevoix	Charlevoix	610	34	66.2	− 1.4	95	6	44	16	35	1.69	− 0.80	0.80	0	5	15	12	4	nw.	Pere Marquette R. R.
Charlotte	Eaton	.....	8	70.1	.....	88	4†	43	19	35	2.88	.....	1.12	0	7	14	9	8	w.	City of Charlotte.
Cheboygan	Cheboygan	611	22	66.0	− 0.8	93	6	38	1	38	1.52	− 1.49	0.62	0	5	5	22	4	s.	E. A. Bouchard.
Clinton	Lenawee	830	22	71.9	− 0.7	97	9	45	1	44	2.46	− 0.45	0.61	0	7	11	15	5	sw.	David Woodward.
Coldwater	Branch	984	15	72.6	+ 0.6	92	9	47	19	29	4.36	+ 0.08	1.75	0	11	19	9	3	s.	L. S. & M. S. R. R.
Concord	Jackson	.....	7	71.2	.....	92	9	44	19	31	2.37	.....	0.50	0	7	10	20	1	sw.	W. N. Armstrong.
Croton	Newaygo	685	4	69.2	.....	90	6	42	19	32	8.71	.....	2.40	0	13	6	23	2	sw.	G. R. M. P. Co.
Detroit	Wayne	730	41	71.2	− 0.8	87	14	50	19	27	3.87	+ 0.39	2.53	0	11	13	15	3	s.	U. S. Weather Bureau.
Durand	Shiawassee	799	4	72.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	12*	7*	7*	se.	H. J. Tobin.
East Tawas	Iosco	590	15	66.2	− 1.9	87	10	42	16	30	3.06	− 0.43	1.30	0	11	20a	9a	1a	sw.	Detroit & Mackinaw Ry.
Eloise	Wayne	640	15	71.2	− 1.6	91	5	47	19	32	4.31	+ 0.99	2.15	0	16	8	17	6	se.	John Gilmore.
Flint	Genesee	730	23	69.6	− 0.3	93	8	42	1	38	6.22	+ 3.46	2.65	0	14	10	8	13	n.	William L. Fisher.
Frankfort	Benzie	589	8	64.6	.....	80	12	46	19	22	3.61	.....	1.32	0	7	9	0	22	s.	Geo. Morency.
Ganges	Allegan	665	3	68.2	.....	87	5	42	16	32	5.39	.....	1.97	0	12	15a	11a	4a	sw.	H. H. Hutchins
Gaylord	Otsego	1,367	12	65.2b	− 1.4	95	6	30c	28	45c	2.72	− 0.68	0.90	0	7	12	0	19	sw.	Michigan Central R. R.
Gladwin	Gladwin	794	16	.....	.....	92b	6	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Geo. R. Smith.
Grand Haven	Ottawa	628	31	67.8	− 1.9	89	6	45	16	32	4.49	+ 1.91	2.27	0	9	9	17	5	s.	U. S. Weather Bureau.
Grand Rapids	Kent	707	23	70.8	− 1.8	91	5	47	16	31	7.47	+ 4.84	2.92	0	13	5	14	12	nw.	Do.
Grape	Monroe	625	22	72.3	+ 0.1	92	15	47	1†	32	2.72	+ 0.37	0.63	0	10	7	23	1	.....	Joseph W. Morris.
Grass Lake	Jackson	989	6	72.4	.....	98	4	46	17	33	4.47	.....	1.00	0	12	12b	8b	9b	sw.	Menzo Conklin.
Grayling	Crawford	1,147	22	66.6	− 0.9	89	3†	37	19	40	3.81	− 0.73	1.45	0	10	13	10	8	w.	S. N. Insley.
Harbor Beach	Huron	635	24	.....	.....	90	4	.....	.....	.....	3.30	+ 1.02	1.20	0	7	17	12	2	s.	Pere Marquette R. R.
Harrison	Clare	1,159	19	67.8	− 0.7	92	5	39	20	42	3.80	+ 6.23	1.45	0	5	12	11	8	nw.	Do.
Harrisville	Alcona	616	28	64.4	− 2.4	87	10	41	1	29	5.24	+ 2.28	2.83	0	12	10	11	10	sw.	D. W. Mitchell.
Hart	Oceana	698	20	.....	.....	.....	.....	42	16	.....	10.90	+ 8.44	3.30	0	10	12	13	6	sw.	P re Marquette R. R.
Hayes	Huron	620	22	69.0	+ 0.3	90	6†	43	3	42	3.72	+ 1.00	1.13	0	10	6	20	5	n.	C. F. Leipprandt.
Highland	Oakland	830	20	.....	.....	.....	.....	.....	.....	.....	4.95	+ 1.95	1.94	0	14	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	15	71.6	+ 0.2	90	6†	44	19	31	1.93	− 1.94	0.78	0	8	13a	6a	11a	sw.	C. L. Herron.
Holland	Ottawa	610	6	70.0e	.....	90f	5	42	19	33f	5.55	.....	2.98	0	14	11	15	5	nw.	City of Holland.
Howell	Livingston	924	20	70.7	+ 0.3	90	6†	45	16†	33	6.96	+ 4.13	1.90	0	10	12	8	11	sw.	Frank Sharp.
Ivan	Kalkaska	.....	23	66.4	− 1.6	94	6	37	16	37	2.78	0.0	0.58	0	12	8	21	2	sw.	O. L. Giddings.
Jackson	Jackson	927	15	71.6	− 1.9	92	9	44	19	40	3.11	− 0.22	1.15	0	12	9	15	7	sw.	City of Jackson.
Jeddo	St. Clair	667	23	68.6	− 0.9	90	9	44	19	30	5.78	+ 2.93	1.30	0	14	9	12	10	sw.	William Bice.
Kalamazoo	Kalamazoo	955	36	70.6	− 1.7	90	6†	47	19	32	3.50	− 0.01	1.90	0	10	10	17	4	sw.	Kalamazoo Asylum.
Lansing (Agr. Col.)	Ingham	820	48	69.6	− 1.3	90	9	43	19	35	5.06	+ 1.84	1.60	0	14	4	13	14	sw.	U. S. Weather Bureau.
Lansing (Capitol)	....do	881	25	70.8	− 0.3	91	3†	44	18	43	8.30	+ 5.06	3.10	0	13	7	4	20	sw.	State Board of Health.
Lapeer	Lapeer	827	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Home.
Ludington	Mason	586	14	64.5	− 3.3	87	9	42	16	34	11.68	+ 9.23	4.30	0	6	19	9	3	sw.	Pere Marquette R. R.
Luther	Lake	1,028	2	67.0	.....	92	6	33	19	40	6.27	.....	1.25	0	14	8	15	8	s.	John W. Nicholson.
Mackinaw	Cheboygan	592	21	.....	.....	87	5†	.....	.....	.....	0.35	− 2.86	0.35	0	1	.....	.....	.....	w.	G. R. & I. Ry.
Mancelona	Antrim	1,121	16	66.0	− 1.4	94	6	35	16	41	0.10	− 2.53	0.06	0	5	24	4	3	se.	Do.
Manistee	Manistee	600	15	68.0b	+ 1.0	94b	6	44b	16	42b	2.40	− 0.62	1.05	0	4	.....	.....	.....	.....	Pere Marquette R. R.
Marshall	Calhoun	896	0	71.6*	.....	89*	10	49*	19	29*	.....	.....	.....	0	.....	.....	.....	.....	.....	E. B. Stuart.
Midland	Midland	604	13	71.0	+ 0.3	93	7	41	1†	46	4.33	+ 1.59	1.60	0	8	10	12	9	se.	Pere Marquette R. R.
Morenci	Lenawee	811	5	72.1	.....	89	9†	48	19	27	1.88	0.45	.....	0	11	8	11	12	sw.	George J. Tripp.
Mount Clemens	Macomb	615	12	71.5	− 0.8	95	9	47	19	28	4.55	+ 1.14	1.15	0	8	12	4	15	e.	Waterworks.
Mount Pleasant	Isabella	826	13	.....	.....	93g	11	35g	1	55g	.....	.....	.....	0	.....	.....	.....	.....	.....	Pere Marquette R. R.
Muskegon	Muskegon	587	16	69.2	− 1.0	90	6	44	16†	31	4.31	+ 0.94	1.50	0	8	23	6	2	s.	G. R. & I. Ry.
Old Mission	Grand Traverse	858	18	67.5a	− 1.4	95a	6	42a	16	35a	2.30	− 0.28	0.41	0	12	3a	23a	4a	n.	E. O. Ladd.
Olivet	Eaton	934	22	69.4	− 1.2	86	4†	46	19	32	3.79	− 0.17	1.25	0	9	17	3	11	s.	G. A. Knapp.
Omer	Arenac	616	13	69.2	+ 2.2	90	9	40	22	38	2.16	− 0.39	0.62	0	12	16	1	14	w.	D. & M. Ry.
Onaway	Presque Isle	826	9	67.6	.....	92	7	40	16	33	0.41	.....	0.21	0	2	13	0	18	w.	Do.
Owosso	Shiawassee	731	15	72.1	− 0.4	95	6	44	16†	38	5.56	+ 1.49	1.95	0	13	5	26	0	n.	Owosso Sugar Co.
Petoskey	Emmet	660	22	66.2	− 0.5	90	2	40	19	39	0.67	− 1.87	0.25	0	7	4	23	4	w.	G. R. & I. Ry.
Plymouth	Wayne	725	15	72.4	+ 0.6	93	4†	49	16†	32	4.47	+ 1.02	2.00	0	7	21	6	4	e.	Pere Marquette R. R.
Pontiac	Oakland	935	12	70.0	− 0.5	89	5	46	19	27	4.60	+ 1.75	1.54	0	11	7	20	4	sw.	Fred W. Shaw.
Port Austin	Huron	618	15	68.1	− 1.2	94	2	38	18	41	3.14	+ 2.04	0.98	0	9	17	8	6	s.	Pere Marquette R. R.
Port Huron	St. Clair	639	37	68.8	− 0.2	90	15	48	19	30	4.17	+ 1.43	1.53	0	12	12	11	8	sw.	U. S. Weather Bureau.
Reed City	Osceola	1,033	15	67.7	− 1.2	92	6	38	18	39	6.44	+ 2.69	1.72	0	14	4	10	17	n.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	11	65.7	− 0.3	89	9	33	16	48	2.16	− 0.14	0.45	0	10	7	18	3	w.	Marcus Schaaf.
Saginaw	Saginaw	601	10	71.7	+ 0.3	97	14	43	19	34	8.12	+ 4.63	2.50	0	12	13	14	4	ne.	Postmaster.
Saginaw West Side	....do	601	17	71.0	− 0.8	93	6	43	19	34	6.42	+ 2.84	2.50	0	13	13	14	5	sw.	Robert B. Hudson.
St. James	Charlevoix	681	6	65.2	.....	90	6	42	19	28	1.93	.....	1.03	0	9	15	8	8	nw.	James Malone.
St. Joseph	Berrien	593	25	70.2	− 2.5	92	6	50	19†	26	4.16	− 1.61	1.05	0	11	8	6	17	nw.	City of St. Joseph.
Sandusky	Sanilac	790	3	68.5	.....	92	8	42	1	38	5.99	.....	1.69	0	14	10	21	0	w.	Pere Marquette R. R.
Saranac	Ionia	639	17	70.6	− 1.1	93	9	41	19	37	6.63	+ 3.70	1.79	0	13	6	1	24	sw.	John Wallington.
South Haven	Van Buren	585	16	69.0	− 0.3	95	14	46	19	31	8.20	+ 5.09	2.00	0	10	19	7	5	ne.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	18	.....	.....	.....	.....	.....	.....	.....	5.53	+ 2.94	2.28	0	7	12	9	9	sw.	City of Stanton.
Thornville	Lapeer	975	35	67.0	− 5.0	90	5	45	16	40	3.32	+ 0.06	0.55	0	10	.....	.....	.....	w.	J. S. Caulkins.
Traverse City	Grand Traverse	588	15	68.8	− 0.2	95	6	44	19	34	2.82	− 0.56	1.00	0	7	8	5	18	nw.	G. R. & I. Ry.
Vassar	Tuscola	641	11	69.8	− 1.1	90	9†	42	19	44	6.68	+ 3.76	2.00	0	7	7	19	5	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	15	70.8	− 0.3	90	6	47	19	29	3.45	− 0.70	2.02	0	8	20	0	11	nw	Charles A. Palmer.
West Branch	Ogemaw	973	7	.....	.....	94	9	.....	.....	.....	1.51	.....	1.00	0	5	20	2	9	s.	Michigan Central Railroad.
Wood'n(P. O. Vienna)	Montmorenci	.....	14	64.2	− 2.7	91	6	36	1	42	3.08	+ 0.59	0.98	0	12	8	19	4	sw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	27	70.6	− 0.2	92	9	46	19	31	3.55	+ 0.17	1.08	0	15	0	31	0	sw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	25	72.4*	+ 0.1	89*	5†	51d	22	27	5.55	+ 1.61	3.09	0	14	15*	2*	11*	sw.	Prof. C. R. Olin.
Antwerp	Paulding	733	.....	73.7	.....	94	15	48	31	29	4.76	.....	1.53	0	9	16	0	15	sw.	North G. Osborn.
Benton Ridge	Hancock	800	19	73.6	− 0.5	92	15†	52	19†	30	7.85	+ 4.02	1.63	0	13	5	25	1	sw.	J. W. Powell.
Bowling Green	Wood	670	31	71.9	− 1.0	93	15	50	19	30	3.83	− 0.59	1.75	0	10	10	19	2	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	18	73.6	0.0	98	9†	54	19	30	9.84	+ 6.04	2.40	0	13	8	8	15	sw.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	41	71.0	− 1.5	88	7	56	31	20	8.13	+ 4.58	2.54	0	12	4	12	15	n.	U. S. Weather Bureau.
Cleveland (2)	....do	754	15	72.6	− 0.3	91	10	57	1†	23	8.21	+ 4.55	2.22	0	12	12	9	10	nw.	Rev. F. L. Odenbach, S. J.

TABLE 1.—*Climatological data for July, 1912. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Continued.																				
Conneaut	Ashtabula	675	2	71.2	.....	94	6	51	1†	29	2.98	.....	0.81	0	10	8	15	8	sw.	E. L. Ransom.
Findlay	Hancock	776	23	74.0	− 0.2	94	15	52	19	33	9.75	+ 5.91	3.15	0	14	16	12	3	nw.	Dr. E. A. Moser.
Fremont	Sandusky	628	10	74.1	+ 0.2	93	9	54	19	29	5.98	+ 1.96	2.23	0	9	17	8	6	sw.	E. Stanley Thomas.
Hedges	Paulding	725	18	73.0	− 0.3	92	15†	50	19	28	2.39	− 0.62	0.75	0	7	16	11	4	s.	Chas. Stutzman.
Hillhouse	Lake	997	19	69.8	− 0.8	90	7	47	27	29	3.98	− 0.30	1.65	0	10	10	20	1	nw.	J. W. Doncaster.
Hiram	Portage	1,260	32	71.2[f]	+ 0.1	89	7	50	27	27	3.88	+ 0.15	2.00	0	8	11	19	1	sw.	Prof. G. H. Colton.
Hudson	Summit	1,153	51	73.2[f]	+ 0.9	98[f]	8	52[f]	27	34	6.60	+ 2.43	2.29	0	10	19[f]	5[f]	1[f]	sw.	Dr. W. I. Chamberlain.
Lima	Allen	875	13	73.2	+ 0.1	92	24	52	19	26	6.50	+ 3.43	3.15	0	10	9	5	17	sw.	Miss Ollie De Long.
Medina	Medina	944	24	71.6	− 0.8	91	5	49	27	32	5.00	+ 0.63	1.54	0	10	12	12	7	s.	F. W. Clark.
Montpelier	Williams	880	20	73.6	+ 1.2	92	24	49	19	30	2.30	− 1.67	1.10	0	5	14	12	5	sw.	G. L. Laser.
Napoleon	Henry	680	25	73.1	+ 0.1	92	15	56	29†	26	3.25	− 0.15	1.32	0	10	8	17	6	w.	A. C. Senter.
New Bremen	Auglaize	1,038	19	72.9	− 1.3	92	24	53	19	24	8.89	+ 5.68	2.68	0	12	8	17	6	sw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	19	70.9	− 1.5	90	5†	50	26†	29	7.00	+ 2.55	2.68	0	10	12	17	2	nw.	W. S. Edgerton.
Norwalk	Huron	719	26	73.4	+ 0.5	93	8†	52	1	29	3.59	− 0.88	1.15	0	12	9	15	7	w.	Giles R. Gregory.
Oberlin	Lorain	855	37	72.4	0.0	91	9†	51	1	29	7.24	+ 3.51	2.18	0	20	8	16	7	n.	Prof. F. F. Jewett.
Ottawa	Putnam	720	19	72.9	− 0.9	90	15†	52	19	28	6.73	+ 2.98	2.23	0	12	2	22	7	sw.	Prof. J. T. Maldlow.
Sandusky	Erie	629	35	72.6	− 1.0	89	9	59	20	19	4.93	+ 1.14	0.98	0	14	7	15	9	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	30	74.0	+ 0.4	89	6†	57	19	24	4.03	+ 0.08	1.44	0	12	11	19	1	sw.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	41	72.4	− 1.3	91	15	52	19	29	3.60	+ 0.36	0.84	0	11	9	15	7	sw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	29	73.0	− 0.8	91	15	54	19	25	6.68	+ 3.10	1.26	0	12	5	17	9	sw.	Robert E. Tracht.
Vickery	Sandusky	588	19	73.1	− 0.1	93	8†	55	19	32	6.96	+ 2.80	2.07	0	13	2	23	6	ne.	John W. Barr.
Wauseon	Fulton	780	40	73.1	+ 0.3	94	15	47	19	31	1.96	− 1.98	0.63	0	11	9	16	6	s.	Thomas Mikesell.
Wickliffe	Lake	649	....	.....	.....	.....	.....	.....	.....	.....	6.92	.....	3.30	0	11	14	11	6	s.	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	39	70.4	− 1.4	92	15	53	31	28	3.09	− 0.12	1.33	0	12	4	19	8	s.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	21	72.3	+ 2.4	97	8	48	1†	30	2.38	− 2.10	1.98	0	7	16	13	2	sw.	A. E. Cooley.
Angelica	Allegany	1,340	29	67.0	− 0.6	92	8†	32	1	46	2.42	− 1.78	0.59	0	12	2	12	17	w.	Charles P. Arnold.
Appleton	Niagara	270	21	69.8	+ 0.1	96	8	40	1	31	1.33	− 2.63	0.75	0	7	17	12	2	sw.	H. A. Van Wagoner.
Auburn	Cayuga	715	43	70.4	− 0.1	94	8	45	1	32	3.17	− 0.62	1.00	0	9	26	4	1	ne.	A. H. Underwood.
Avon	Livingston	585	17	70.4	− 0.5	94	6†	42	1	34	4.25	+ 0.48	0.98	0	8	17	12	2	.....	W. G. Markham.
Blue Mountain Lake	Hamilton	1,750	12	.....	.....	.....	.....	.....	.....	.....	1.55	− 3.04	0.77	0	3	20	9	2	w.	B. F. Merwin.
Brockport	Monroe	537	16	71.2	0.0	97	15	46	20	33	1.86	− 2.46	0.76	0	12	10	20	1	.....	W. H. Lennon.
Buffalo	Erie	767	61	70.1	− 0.1	91	6	50	19	26	1.41	− 1.99	0.36	0	6	9	16	6	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	18	67.8	− 1.1	92	10	41	23	36	1.82	− 1.41	0.70	0	9	14	11	6	sw.	Do.
Cape Vincent	Jefferson	246	7	70.0	.....	91	6	45	23	36	3.08	.....	1.52	0	3	21	7	3	s.	J. Harry Grapotte.
Castile	Wyoming	.....	0	69.7	.....	94	8†	37	1	42	3.05	.....	0.79	0	11	.....	.....	.....	nw.	Miss Caroline Bishop.
Chazy	Clinton	151	12	69.3	+ 0.5	94	8	45	1†	39	5.14	+ 1.08	2.60	0	8	19	8	4	s.	W. R. North.
Dannemora	....do	1,490	7	70.1	.....	95	10	47	20	40	3.83	.....	1.72	0	9	13	10	8	s.	Dr. W. N. Thayer.
Elba	Genesee	500	13	.....	.....	.....	.....	.....	.....	.....	1.74	− 3.10	0.91	0	2	18	9	4	sw.	Joseph S. Willford.
Fayetteville	Onondaga	530	11	71.7	+ 0.1	95	6	42	1	34	2.69	− 1.28	0.70	0	9	18	12	1	sw.	Dana H. Wells.
Gabriels	Franklin	1,729	10	64.6	.....	94	10	34	1†	46	3.80	.....	1.40	0	9	17	10	4	w.	Gabriels Sanatarium.
Harkness	Clinton	622	10	68.8	− 0.2	95	8	40	1	35	3.66	0.00	0.96	0	12	25	4	2	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	14	70.3	− 0.6	90	9†	42	1	35	4.34	+ 0.30	1.28	0	12	10	19	2	nw.	Grant Harvey.
Hunt	....do	1,321	13	69.6	− 0.5	97	6	36	1	42	3.14	− 1.42	0.96	0	10	9	13	9	sw.	W. S. Barager.
Ithaca	Tompkins	928	34	70.9	+ 0.3	96	8	42	1	39	2.64	− 1.11	1.03	0	16	8	18	5	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	14	66.9	− 0.1	99	8	37	1	49	2.91	− 1.00	0.71	0	13	14	11	6	s.	E. R. Wells.
King Ferry	Cayuga	.....	12	.....	.....	.....	.....	.....	.....	.....	5.57	+ 1.48	1.52	0	9	17	10	4	nw.	Lucius A. Goodyear.
Lake George	Warren	350	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Charles Forsell.
Lake Placid Club	Essex	1,864	4	59.7	.....	88	10	32	1†	38	6.10	.....	3.02	0	11	16	13	2	nw.	Henry van Hoevenberg.
Lockport	Niagara	520	25	71.2	+ 0.8	94	6†	44	1	32	1.32	− 2.50	0.70	0	6	17	13	1	sw.	Robert N. Clark.
Lowville	Lewis	900	45	69.8	+ 2.3	95	8†	39	1	41	1.79	− 1.92	1.03	0	8	21	9	1	w.	Prof. W. F. H. Breeze.
Moira	Franklin	200	12	68.4	− 0.6	93	6†	39	23	38	2.31	− 2.07	0.85	0	6	22	6	3	w.	C. E. McBride.
Nehasane	Hamilton	1,750	4	63.8	.....	91	10	31	1	46	4.29	.....	1.98	0	6	21	9	1	nw.	L. W. Brown.
North Lake	Herkimer	1,822	11	66.0	.....	93	8	40	23	50	2.34	.....	1.46	0	3	27	3	1	w.	John F. Redmond.
Ogdensburg	St. Lawrence	175	28	68.8	− 0.8	90	6†	45	24	35	1.92	− 1.28	0.44	0	6	16	12	3	s.	State Hospital.
Old Forge	Herkimer	1,733	4	64.4	.....	91	8	33	1	44	3.33	.....	0.92	0	10	17	7	7	w.	Mrs. S. W. Nelson.
Oswego	Oswego	335	42	68.5	− 1.1	91	15	46	1	26	2.49	− 0.74	0.80	0	13	13	14	4	s.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	8	69.2	.....	89	15	46	5	39	3.97	.....	1.00	0	18	10	15	6	.....	William J. Winke.
Palermo	Oswego	460	53	.....	.....	.....	.....	.....	.....	.....	1.75	− 1.61	0.40	0	8	25	5	1	nw.	E. B. Bartlett.
Perry City	Schuyler	1,038	32	67.9	− 0.9	94	3†	33	1	49	2.98	− 1.25	0.69	0	11	6	16	9	sw.	W. H. Jeffers.
Philadelphia	Jefferson	485	6	69.6	.....	92	8†	42	1	38	2.28	.....	1.36	0	8	15	15	1	w.	E. D. Babcock.
Potsdam	St. Lawrence	300	36	70.6	+ 2.3	95	7†	42	24	42	1.81	− 2.53	0.62	0	6	.....	.....	.....	.....	A. E. Sutherland.
Raquette Lake	Hamilton	1,776	4	66.6	.....	92	10	37	1	41	3.35	.....	1.41	0	9	17	10	4	sw.	R. J. Dunning.
Rochester	Monroe	523	83	71.0	+ 0.6	94	15	47	1	29	2.78	− 0.31	0.97	0	13	11	17	3	w.	U. S. Weather Bureau.
Romulus	Seneca	719	20	70.2	− 1.4	94	15	43	1	34	3.77	+ 0.23	1.12	0	6	16	9	6	w.	John H. Coryell.
Shortsville	Ontario	740	13	69.4	− 0.8	93	15	44	1	34	4.75	+ 0.55	1.76	0	10	11	17	3	nw.	C. H. Latting.
Skaneateles	Onondaga	.....	17	.....	.....	.....	.....	.....	.....	.....	2.96	− 1.11	0.75	0	15	.....	.....	.....	.....	Edward Conron.
Syracuse	....do	597	10	70.7	− 0.1	93	8	46	1	28	3.16	− 0.52	1.17	0	14	12	17	2	s.	U. S. Weather Bureau.
Ticonderoga	Essex	344	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Eva M. De Lano.
Tupper Lake	Franklin	1,522	12	65.0	+ 0.3	90	10	32	1	43	2.16	− 2.79	0.82	0	8	22	6	3	w.	Rev. A. W. Maddox.
Volusia	Chautauqua	1,167	13	68.4	+ 0.1	90	6†	45	1†	32	1.34	− 2.63	0.28	0	10	3	25	3	sw.	Benjamin Breads.
Wanakena	St. Lawrence	1,620	2	65.2	.....	93	8	35	24	40	2.78	.....	1.46	0	10	2	28	1	w.	J. Otto Hamele.
Watertown	Jefferson	540	20	70.3	+ 0.7	92	6†	46	23	29	3.14	− 0.51	1.81	0	8	25	4	2	w.	H. P. Dunlap.
Wedgwood	Schuyler	1,430	23	69.2	− 0.7	95	9	44	1	34	3.67	− 0.28	2.21	0	11	15	13	3	sw.	O. F. Corwin.
Westfield	Chautauqua	837	16	69.7	− 0.6	93	15	50	1	28	3.13	− 1.12	1.85	0	7	6	22	3	.....	John R. Rogers.
York	Livingston	760	0	70.2	.....	92	8	40	1	40	3.26	.....	0.71	0	13	8	16	7	nw.	M. N. Stewart.
Youngstown	Niagara	.....	10	.....	.....	.....	.....	.....	.....	.....	2.32	.....	1.53	0	7	10	21	0	n.	B. V. Brookins.
Vermont.																				
Burlington	Chittenden	404	4	68.3	+ 0.1	94	8	44	1	34	3.24	− 0.54	1.20	0	12	12	10	9	s.	U. S. Weather Bureau.
Cornwall	Addison	507	18	70.6	− 0.3	99	8	40	23	38	1.84	− 1.69	0.91	0	7	14	14	3	n.	C. H. Lane.
Enosburg Falls	Franklin	601	10	66.9	− 0.7	93	6†	36	1	40	2.99	− 2.41	0.50	0	10	18	11	2	nw.	L. Howe Pomeroy.
Hyde Park	Lamoille	576	....	66.8	.....	96	6†	36	1	44	1.59	.....	0.35	0	11	14	9	8	nw.	A. V. Wiswell.
Northfield	Washington	876	25	65.0	− 1.6	94	10	36	1	42	3.31	− 0.39	1.03	0	12	11	13	7	s.	U. S. Weather Bureau.
Wells	Rutland	750	20	69.0	0	94	8	43	1	34	3.40	− 1.02	0.99	0	6	15	13	3	s.	E. R. Pember.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 4, Lake Region.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota.																																	
Cloquet	L. Superior			.25		.18				.58	.05		.44	.06	.03	T.					T.		T.	.30					.01			T.	1.90
Duluth	do			.14		.06				.51			.13		.54		T.			.01	.01	T.	.01	.27	.02				.23	.30	.01	T.	2.24
Floodwood	do				.10						.49	.40	.32	.15				.07						.24					.39				2.16
Stephens Mine	do					T.				.31		.20			.33		T.					T.	.23	T.	.05				.20	T.		.47	1.79
Two Harbors	do			.15		.05				.20			T.	.25	.50						.10		T.	.30	T.				.30		.07	.25	2.17
Virginia	do			.25			.05			.40		.27			.30		T.					T.	.35						.25	.20	.02	.16	2.25
Wisconsin.																																	
Appleton	Fox			.63	.25			.13			.71			1.15	.44				.10		.82			1.84	1.50				T.	.73	.45	.01	8.76
Ashland	L. Superior			.35					.10	.20			.19	.12	T.						.11		.03	.18					.68	.17			2.13
Bayfield	do								.26	.40			.25	.47														.52	.11			.02	2.03
Cecil	Fox			1.14	.38	.06		.62		.33				.62		.23			T.		.16	T.		2.46	4.93				.38	.31	.22	.04	11.88
Cornucopia	L. Superior			.18	.01	T.			.05	.29	T.		.15	.65	.09		T.				T.		.01	.13					.07	.27	T.	T.	1.90
Crandon	Fox			.05	.07	.16		.28	.65	.06	.42			.26		.12		.11			T.			.97	.11				.99	.06	.24	T.	4.55
Florence	Menominee							.23	.35		.28					.33		.08						.51	.03				.48	.22		.05	2.56
Fond du Lac	Fox				.24		T.	.50			.70			.85					.20		1.86	.04		2.32	.12				.05	.48	.50		7.86
Grand River Locks	do				.35									.95		.10					2.96			.50					.02	.15	T.	.15	5.18
Green Bay	L. Michigan			.22	.15	.10	.11	.01	.02		.41		.83	.13	T.	.04			.06		.39	.02		4.39	T.				.36	.21	.01		7.46
High Falls	do			.03	.19	.39		.20	.21		.24			.22		.63		T.	T.		T.	T.	T.	1.50	.35				.78	.12	.14	.05	5.05
Iron River	L. Superior			.28		.37			T.	.19	.07		.33	.09	.11	.02					.12		.04	.25			T.		.32		.04	.05	2.28
Kewaunee	L. Michigan			.44	.30	.68				.30	.37			.78					.12		.50			4.92					.68	.21			9.30
Manitowoc	do			2.05	.15	.07					.27		1.50			.03			.12		1.45			1.79	4.52			.11	.68	.12	.04		12.90
Menasha	Fox			.19	.46		.29			.55			1.20			.30					.98			2.62	1.67				.43	.10	1.38		10.17
Menomonee Falls	L. Michigan				.08		.32			.12				2.34					.08		1.58	.06		.06						.22	.06		4.92
Milwaukee	do			T.	.44		.06	.08			.02			2.19					.03		1.31			.47	T.			T.	.05	.08	.19	T.	4.93
New London	Fox		T.	.05	.20		.28		.25	T.	.53		T.	1.50		.40			T.		.90			1.55	1.58				.45	.15	.60	.25	8.69
Oconto	L. Michigan			.05	2.00				.34	.27	T.		.70		.11				.06		.21			4.21					.55	.90	.02	.01	9.43
Oshkosh	Fox		.43		.14			.63			.68			.84		.19					1.12			1.95	.25				.14	.33	.31		7.01
Pine River	do		.06	*	*			*			*			2.60		.65					1.05			1.71	1.02				1.29	.19	.40	.11	9.08
Plum Island	L. Michigan			T.	.24	.02			.33	.27	.20		.18	.05		.33		T.	.07		.05		.03	.78	.02				.45	.45	.03	0	3.50
Plymouth	do			T.	.13			.01			.28			.54		.01			.03		1.83	.02		2.54	.42				.22	.03	.06	T.	6.12
Port Washington	do			.72	.22			.05			.14			.66							1.40	.40		1.63						.61	.51		6.34
Racine	do				.03			T.	.27		.20			1.33					.02		2.35	1.10	T.	.04					.40	.48	.27	0	6.49
Ripon	Fox			.15	.41			.41			.76			.94		.58			.10		2.30			.73	.10				.38	.53	.47		7.86
Sheboygan	L. Michigan				.10						.30			.90				.21			1.03	.73		2.77	.13				.09	.08		.10	6.44
Sturgeon Bay	do			.23	.22	2.87				.27	.28			.34		.13		T.		.18	.03		T.	1.05	.98	.07			.44	.15	.03	T.	7.27
Superior ‖	L. Superior	.17		.05	.02	.06				.23	.01		.01	.23		.16					.01			.25	.03				.08		.02	.06	1.39
Waupaca	Fox		T.	.66	.94			.52		*	.62			2.18		1.03					.92	.03		.80	.11				.38	.09	.44	.15	8.87
Illinois.																																	
Chicago	L. Michigan		T.	T.	T.			1.83	.04		T.			.07		T.			.04		.96	.08		.14					.53	.17	T.	T.	3.86
Evanston	do							.41	.12					.70					.04		.31	.71		.01					.35	.44	.06	T.	3.15
Indiana.																																	
Auburn ‖	Maumee			.11				T.	.02	.70	T.				.90							.61			T.					.32		.44	3.10
Berne	do	.29	.06	.07				.02	.07	.02	.97			.57	2.56	.25	.04				T.	.34			.08					T.		.06	.18	5.55
Elkhart	St. Joseph																																
Fort Wayne	Maumee		.90			T.	T.	.01	.19	.04	.05			.79		T.					T.	1.13		.07					.10		.10		3.3
Hammond	L. Michigan		.10	T.			.50	.80					T.				T.							1.04					.30	.25			2.99
Howe ‖	St. Joseph			.10					1.23		.28	.26		1.39	.45							.33								.65			4.69
Notre Dame	do		.07				2.49	.69	.01	.02	.17			2.11							.41	.13		.06					.20		.07		6.43
Whiting	L. Michigan		.01	.04			.06	.42			.02			.01					T.		.66	.50		1.19					.36	.16	T.		3.43
Michigan—Upper Peninsula.																																	
Baraga	L. Superior						.20		.10				.20		.20									.40			.10						1.20
Bergland	Ontonagon			.83			.35	.11	.12	.12	.35			.10	.28						.12	1.83	T.				.19		.38				
Blaney	Manistique																																
Calumet	L. Superior			1.00			.99		.12	.21	.41		.19	.75	.20						T.	T.	.09	.97	.02					T.	.32	T.	4.47
Chatham	do				.01		.06			.04	.55					.40		.20					.05	.25						.10	.10		1.76
Deer Park	do				T.					.40	.10			T.		T.		T.			T.				T.								0.50
Detour	St. Marys																																
Eagle Harbor	L. Superior		.28	.20			.57	T.	T.	.10	.20			.45		.45								.30	.07			T.	T.	.30			2.92
Escanaba	L. Michigan			.03					.15	.08	.14		.05	T.		.15		.03	T.		T.		.06	.29	.02				.23	T.	.02		1.25
Ewen	Ontonagon			.25		.10					.16					.02							.04	.52					.03	.05	.06	.03	1.26
Grand Marais	L. Superior			T.						.20	.40					.20		.18				T.	T.	.02	.06								1.06
Green	do						T.				1.95												T.	1.98									3.93
Houghton	do			1.16			.19		.08	.18	.42		1.38	.20	.19		T.				T.	T.	.31	.79	.02				T.	.01	.21	.02	5.16
Humboldt	Escanaba										1.00												1.00	2.00							T.		4.00
Iron Mountain	Menominee			T.	.40	.08		.24	1.18	.08	.19			.18		12		.06					T.	.66	.05				.39	.06	.05	T.	3.74
Iron River	do				.30			.20	T.	T.	.24			.35		T.		.15					T.	.65	T.				.45		.15		2.49
Ironwood	L. Superior			.42				T.		T.	.43					.08					.03		T.	.43					.24	.11			1.74
Ishpeming	Escanaba				.05			.20	T.	.60	.40			.50		T.		.05			T.		.10	1.00	.20	T.			T.	T.	.10		3.20
Isle Royale	L. Superior																																
Mackinac Island	Lake Huron			.10				.21		.93	T.					.11					.01		.03	.09	.04								1.52
Maple Ridge	L. Michigan				.50					.56	.20					.23		.11					.41	.28	.04					.15	.15		2.63
Marquette	L. Superior			.22			2.07		.20		.07		T.	.07	T.	.02		T.			T.		.07	.35	T.	T.			T.	.11	.24		3.42
Menominee	Menominee				1.02				.78	1.96			.25		.32						T.			1.47	T.				.46	.06	T.		6.32
Munising	L. Superior				.09					.02	.29					.42		.23						.17	.12		.01		.01	.01	.04		1.41
Newberry	Tequamenon				.27			.11		.27	.07			T.		.19		.08						.09	.07			T.					1.15
Powers	L. Michigan																																
St. Ignace	Lake Huron																							1.50									1.50
Sault Ste. Marie	St. Marys			T.	.20			.09		.03	.02			.01		.14		.05			T.	T.	.03	.07	.16								0.80
Seney	Manistique			.25	T.				.34		T.					.17								.19	.16								1.11
Thomaston	L. Superior		T.	.37					.40	.10	.55		T.		.36								.05	1.12	.03				.12	.02	T.		3.12
Victoria	Ontonagon			1.95			.03	.07	.02	.05	.42		T.	.18		.32					.01		.22	2.15	T.				.95	.05	.16	.01	6.59
Watersmeet	do			.24				.31	.16	.08	.16		T.	.10		.20		.02					.10	.70	T.				.70	.01	.46		3.24
Whitefish Point	L. Superior				.07					.03	.01			.07		.45		.02			.63			.14	.07								0.89
Michigan—Lower Peninsula.																																	
Adrian	Raisin			T.										1.10		.08					T.	.15		.12					1.50	.80	.46		4.21
Allegan	Kalamazoo						.41	1.11	.24					1.24					.09		.87	.62		.41	1.12				T.	.14			6.25
Alma	Saginaw		T.	.57		.10	.05	.76						.73		.12			.08		.55	1.53		.11	1.70				.20	.15	.30		6.95
Alpena	Lake Huron			.25	.51			.73	T.	.17	.15		T.	.27		T.			.11					.06	.32	T.			T.				2.57
Ann Arbor	Huron		.06				.02	T.	T.		.56		T.	.59		.07			.02		.15	T.		T.	1.01				T.	.70	.14	.02	3.34
Arbella	Saginaw		.03			.18		.22	.08					.32					.18		.16	1.35		.10	3.55					.53			6.70

TABLE 2.—*Daily precipitation for July, 1912. District No. 4*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Michigan—Lower Peninsula—Con.																																	
Battle Creek	Kalamazoo						.49	T.	T.					1.11					.02		.20	.26		.09	.47				.07	.18			2.89
Bay City	Saginaw	.22			.45	.40		.93							.36			1.90			.21							.89	.33		.07		5.76
Benzonia	Betsey			.21	.28	.42				.63				.60					.14		.07	.03		.67	.60				.41	.11	.02		4.19
Berlin	Clinton			.01		.37		.07	.02		.11		.10			T.		.10	.21		.10	.51		T.	2.46	.01			.01	.28	.03		4.39
Big Rapids	Muskegon		.10	.07	.25	.60	.02	.27						1.38					.20		.67	1.55		.37	3.62				.95		.18		10.23
Blissfield	Raisin						.02	.07	T.	.28				.32		.08			T.		.06	.10		.02	.02			.01	.74	T.	.61		2.33
Bloomingdale	L. Michigan			.11			.21	.28	.16					2.10					.10		.30	.68		T.	.61				.22	.30		T.	5.07
Cadillac	Manistee				.40	.66	.45	.27						.66					.01		.20	.11		.20	.88				.56	.15			4.55
Cassopolis	St. Joseph																																
Charlevoix	L. Michigan									.80									.05						.53			.27			.04		1.69
Charlotte	Kalamazoo						.94	T.			T.			1.12					.30		.25	.34			.45				T.	.38	T.		3.78
Cheboygan	Cheboygan			.26	.36					.50				.10			T.							T.	.30								1.52
Clinton	Raisin			T.			.03				.50		T.	.61					T.		T.	.04			.30				T.	.55	.43		2.46
Coldwater	St. Joseph						.01	.15	.17		T.			1.08					.05		.07	.15			.20				.13	.60	1.75		4.36
Concord	Kalamazoo						.38	T.	T.	T.			.39	.40					T.		.10	T.		T.	.30					.30	.50		2.37
Croton	Muskegon		.62	.22		.34	.05	.37	T.					1.26		T.			T.		.80	1.70		.37	2.40				.11	.42	.05		5.71
Detroit	Detroit			T.		.02		T.		.01	.36		.01	.27		.50			T.		.04	T.		.19	2.34		T.		.10		.03	T.	3.87
Durand	Saginaw																																
East Tawas	Lake Huron			.30	1.30			.10						.20		T.			.08		.20	.10		.30	.18				T.	.20	.10		3.06
Eloise	Rouge			.01			.20	.03	.01	.39	.61			.42		.05			.01		.07	.01		T.	2.15	.04				.17	.10	.04	4.31
Flint	Saginaw			.03	1.10			.15	.03	.12				.10	.30						.20	1.10			2.65				0.2	.30	.09	.03	6.22
Frankfort	Betsey					.50				.44					.45				.12		.13				1.32				.65				3.61
Ganges	L. Michigan			.26				.79						1.01		.02			.05		.67	1.30		1.00	.05				.11	.06		.07	5.39
Gaylord	Cheboygan				T.		.90	.88	.09	T.						.28			T.						.37					.15	.05		2.72
Gladwin	Saginaw		T.	.10		.20		1.10														2.20											
Grand Haven	Grand		.14	.26	T.						T.		T.	.82		.05			.03		2.27			.62	.06			T.	.24	T.			4.49
Grand Rapids	do		.22	T.	T.		.02	.21	.77		T.			1.40		.01			.04		2.78	.14		.87	.58				.40	.03	T.	T.	7.47
Grape	Raisin						T.	.07	.16	.02				.31		.63			T.		T.	.08		T.	.61				.07	.47	.30		2.72
Grass Lake	Grand	T.					.02	.05		.40	.08	.31		.30	.80					T.	.15	.08			.93					.35	1.00		4.47
Grayling	Au Sable				1.45		.30	.26					.18						.63		T.			.25	.33	T.			.28		.04	.09	3.81
Harbor Beach	Lake Huron					.55		.10	.70													1.20		.05	.65					.05			3.30
Harrison	Saginaw								1.28													.64		.10	.33				1.45				3.80
Harrisville	Lake Huron			.03	2.83			.07		.02	.02			.56		T.			.61			.19		.01	.56	T.			T.	.33	.01		5.24
Hart	Pentwater			.98	.60	.50						.40		1.02						1.50	1.10			3.30					1.00			.50	10.90
Hayes	Pigeon			.19		T.		1.13	T.					.33		T.			.16		T.	.53		.23	.38					.20	.39	.18	3.72
Highland	Huron			.38				.10			.25			.47					.18		.12	.72		.08	1.94	.02			.40	.10	.15	.04	4.95
Hillsdale	St. Joseph		.32					T.		T.	T.		.08	.78							.06	.15		T.	.04				.15	.35	T.		1.93
Holland	L. Michigan			.02			.38	.24	.04		.02			1.20		.02			.10		1.46	1.52		.28	.15				.04	.08			5.55
Howell	Saginaw		.01	1.35		T.		T.	.50	T.	T.			.65					.60		.50	.40		T.	1.90					.85	.20		6.96
Ivan	Manistee				.02	.05	.58	.39	T.	.05				.55		T.			.12		.05	.04		.25	.46		T.		.22	T.	T.		2.78
Jackson	Grand		.14				T.	.04	.28				.25	.90					.05		.14	.10		T.	.49				.05	.42	.25		3.11
Jeddo	St. Clair			.41		1.23		.24	.22		.36	.07		T.		T.		T.	.19		.05	.59		.04	1.26	T.	T.			.93	.06	.13	5.78
Kalamazoo	Kalamazoo						.15	.10	.05					1.90					.10		.20	.35		.15					.20	.30			3.50
Lansing (Agr. Col.)	Grand			.01		.01	.13	.08	.11					.72					.16		.83	.33		.04	1.56				.64	.01	.43		5.06
Lansing (Capitol)	do		.08	T.			3.10	.09	T.				.60	.20					.16		1.07			1.67	.08			.02	.70	.03	.50		8.30
Lapeer	Saginaw																																
Ludington	P. Marquette						2.87							1.03							2.05			.97	4.30			.46					11.68
Luther	Manistee		T.	.11	.18	.60	.04	.49		.02				.85	T.				T.		.79	.41	T.	.42	1.25				.15	.02	.94		6.27
Mackinaw	Lake Huron																								.35								0.35
Mancelona	L. Michigan			T.		T.	T.	T.		T.	T.			.02		T.			T.		T.			.01	.01				.02	.04	T.		0.10
Manistee	Manistee											1.05		.15							.45			.75									2.40
Marshall	Kalamazoo																																
Midland	Saginaw		T.	.20				.70	.10					.30					.10		1.00			1.60				.33				4.33
Morenci	Maumee		.04	.36				.18					.02	.45							.04	.20		T.		.03			.03	.43	.10		1.88
Mount Clemens	Clinton					.50					1.00			.10		.35			T.		T.	.25		T.	1.15	T.			T.	.95	T.	.25	4.55
Mount Pleasant	Saginaw		.05	.12										.24		.13			.06			1.15	.10	.14	1.36	.52					.06		
Muskegon	Muskegon			.05	.10		.01							.75							1.50			1.00	.75				.15				4.31
Old Mission	L. Michigan				.20	.00		.10		.41				.27		.10			.12					.16	.41				.40	.05	.02		2.30
Olivet	Kalamazoo		T.	T.			1.25	T.	.02					.98					.07		.20	T.		.44	.23				.11	.49	T.		3.79
Omer	Lake Huron			.20	.27			.28						.46		.07			.01		.62			.06					.10	.06	.01	.02	2.16
Onaway	Cheboygan															.21									.20								0.41
Owosso	Saginaw						.10		.23	.02				.56					.35	.03	.13	1.95		.02	1.50					.40	.14	.12	5.56
Petoskey	L. Michigan									.02	.06			.08				T.	.12					.04	.25				.10				0.67
Plymouth	Rouge							T.			1.22			.47		T.			.15		.10				2.00	.08					.45		4.47
Pontiac	Clinton			.10		.12	T.		.92		.63			.26		T.			.15		.06	.27		T.	1.54				T.	.50	.05		4.60
Port Austin	Lake Huron			.98				.13	.36					.11						.07		.70			.40					.20		.13	3.14
Port Huron	St. Clair					.21		T.	T.		.70			T.		.22		.12	.14		.10	.39		.32	1.21				.60	.01	.15		4.17
Reed City	Muskegon		.86		.35	.39		.23						.80							.11	.02	1.13	.25	1.72				.04	.20	.30	.04	6.44
Roscommon	Au Sable				.16	.06	.15	.19						.45									.35	.17	.40				.20	.03			2.16
Saginaw	Saginaw			.80		.03	.37	.02						.64		T.			.12		.38	1.68		.03	2.50				.02	.93	T.		8.12
Saginaw, West Side	do		.12	T.		T.	T.	.34	.08					.56		.03			.11		.25	1.67		.05	2.50				.55	.12	.04		6.42
St. James	L. Michigan									1.03						.38		.05	.03		.05			.12	.20				.05	.02			1.93
St. Joseph	St. Joseph		T.				1.05	.50	.60		.02			1.02					.02		.10	.40		.01					.12	.32			4.16
Sandusky	Lake Huron			1.10	.24	.01	.46	.42		.03				.06					.22	.10		1.69		.10	1.09		.04			.43			5.99
Saranac	Grand			T.			.02	.03	.06				.10	1.09					.20		.92	1.55		.38	1.79				.05	.35		.09	6.63
South Haven	L. Michigan			.40				.60		1.00	2.00			.00					.40		.20	1.40							.60	1.00			8.20
Stanton	Grand							.60	.30										.03		2.28		2.18						.02		.12		5.53
Thornville	Saginaw					.10	.30	.35	.35					.55					.20		.10	.52			.55					.30			3.32
Traverse City	L. Michigan					.20			.80	.20				.40		.42			T.						.60					.20			2.82
Vassar	Lake Huron			.30				.25						.60					.68			2.00		T.	2.00				.85	T.			6.68
Wasepi	St. Joseph		T.					.29	.06					2.02					.02		.18	.21							.49	.18			3.45
West Branch	Lake Huron			T.	.12			.14											T.		.10			1.00					T.	.15			1.51
Woodlawn	Au Sable			.15	.06		.10	.98		.18				.46		.02			.30					.10	.47				.11		.15		3.08
Ypsilanti	Huron		.01	.01			.01	T.	.01		.39			.57		.01			.05		.08	.02		T.	1.08				.05	.56	.08	.02	3.55
Ohio.																																	
Akron ‖	Lake Erie				.09		.08				.10	T.	.11		3.09		.13	T.	.21	.08			.66		.49	.05	.03	T.		.37		.06	5.55
Antwerp	Maumee	.23							.55	.05				.32		.18					1.53				.05				.60		1.25		4.76
Benton Ridge	do	.11	1.00	.05				.31	.03		T.			1.63	.62	1.46	.36				T.	1.31							T.	.64	.15	.18	7.85
Bowling Green	Lake Erie		T.	.27				.17	T.					T.	.10	1.75	.10	.04				.66			.32	.08				.34	T.		3.83
Bucyrus ‖	Sandusky		.02	.40	.25				.20	.20					2.40		1.90		1.50			.75	.60			.70					.42		.50	9.84
Cleveland (1)	Lake Erie			.52		1.61			T.		.01			1.76	.06	.80	.12		.04		T.	.13			2.54				.53	T.	.01	T.	8.13
Cleveland (2)	do		T.	.83		2.10			T.	T.	.04			1.33	.17	.73	.07		.07		T.	.13			2.22				T.	.47	.05		8.21
Conneaut	do			.07							.08				.63	.31	.07				.03	.07			.81					.36		.55	2.98
Findlay ‖	Maumee		3.15	.10	.02				.05	.38					1.13		2.50			.72		.81	.12		.01	.15			T.	.34		.27	9.75
Fremont	Sandusky		T.	.55				T.			.05			.36		2.23			.44			.67			.47				T.	.46	.75		5.98
Hedges	Maumee		.26											.68		.24						.75								.30	.12	.04	2.39
Hillhouse	Lake Erie			.55		T.			T.		T.			.05	.82	.15	.05		T.		T.	.17			1.65		.05		T.	.29		.20	3.98
Hiram	do	.11							T.					.03		.21	.07	T.	T.	T.	T.	.91			2.00	T.	.05		T.	.50	T.	T.	3.88
Hudson	do			.11	.03				.08	T.		.11			1.18	1.10						1.40		2.29	.25				T.			.05	6.60

TABLE 2.—*Daily precipitation for July, 1912. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
***Ohio*—Continued.**																																	
Lima ‖	Maumee		1.20	T.	.05	T.		T.	.25	T.	T.	.11			.54		3.15					.57	.31		T.					.12		.20	6.50
Medina	Lake Erie		T.	T.			.07		.19		T.			T.	1.54	.28			.28		T.	1.25			.71		T.		T.	.50	.10	.08	5.00
Montpelier	Maumee		.10						T.					.56								.50							1.10		.04		2.30
Napoleon	do		.25	.22		T.			.10	1.32				.10	.03	.38						.69								.13	.03		3.25
New Bremen	do	.93		T.	.02		.09		.10	.01	.31			2.68		.35	1.05	1.55				1.35		T.							.45		8.89
North Royalton	Lake Erie			.02			.90			.05				.04	2.68	.67			.18			.93			1.31					.22			7.00
Norwalk ‖	do				.15					.03		.01			.09		1.15			.36		.70	.02		.33	.21				.35		.19	3.59
Oberlin	do		.21	.25	.01		.06		.07	.08	.58			.14	2.18	1.36	.11		.43	.02		.45			.65	.01	.01			.39	.02	.21	7.24
Ottawa	Maumee	T.	1.05	.05			T.	.22	.03		.08			1.10	.17	2.23	.18				T.	1.00							.02	.60	T.		6.73
Sandusky	Lake Erie		.73	.32					.96	.04	T.			.55	.01	.98			.13		T.	.23		.01	.49	T.	T.		.10	.01	.37	T.	4.93
Tiffin	Sandusky		.09	.17			T.		.22					.09	.04	1.00		T.	.01		T.	1.44		T.	.33				.02	.44	.09		4.03
Toledo	Maumee		.17	T.		T.	T.	.31	.04	T.	T.			.13		.74		.04	T.		.01	.13		T.	.66				.53		.84		3.60
Upper Sandusky	Sandusky	.32	.68	.72	T.			.10						T.	1.10	.40		.50				1.26			.10	.25		.65			.60		6.68
Vickery	Lake Erie		.02	.38							.03			.07	1.84	2.07			.75		T.	.44		.01	.64				T.	.26	.44	.01	6.96
Wauseon ‖	Maumee			.25	.07			.08		T.	.01				.31		.03					.42	.21		T.				.01	.53		.04	1.96
Wickliffe ‖	Lake Erie			.53		.04								1.19	.93	.13	.16				.02	.17			3.30					.23	T.	.22	6.92
Pennsylvania.																																	
Erie	Lake Erie		.01	T.					T.	T.	.01			1.33		.14			.05		T.	.05		T.	.53	.20	.02		T.	.34	.16	.25	3.09
New York.																																	
Adams Center	L. Ontario				T.							.05								.24		1.98	.03				.04		T.	.02	.02		2.38
Angelica	Genesee					.12				.34	.59	.28	.01	T.	.09	T.	.20			.06		.31			.16				T.	.08		.18	2.42
Appleton	L. Ontario										.11	T.		T.		.03	.12	T.	T.	.20		.75			T.	T.	.09			T.		.03	1.33
Auburn	Oswego			T.	.42					.13	.08	.12			.22	.42						.70					T.			1.00		.08	3.17
Avon	Genesee			T.	.39	.98					.42					.94				.11		.34								.98		.09	4.25
Blue Mountain Lake	Raquette					.15			T.			T.					T.	T.	T.		.77							.63					1.55
Brockport	L. Ontario			.06	.03						.25	T.		.17		.04	.02			.20		.76				.02	.19			.10		.02	1.86
Buffalo	Lake Erie			T.								T.		T.		.36			.27		T.	.32		T.	.28	.10			T.	T.	.08	1.41
Canton	Grass										T.			.07		.06	.18		.03	.16		1.70	T.						.36	.06	.20		1.82
Cape Vincent	St. Lawrence													.22		1.52						.34											3.08
Carvers Falls	L. Champ'n																																
Castile	Genesee				.53						.01	.55			.50	.18	.02			.06		.27			.10	.79				T.	T.	.04	3.05
Chazy	L. Champ'n				.20						2.60				.55	T.				T.		.95	.28							.33	.18	.05	5.14
Dannemora	do				T.		.42					1.72			.41	.02	.03			.07		.65	T.						T.	.49	T.	.02	3.83
Elba	L. Ontario														.91										T.	T.	T.			.83			1.74
Faust	Raquette																																
Fayetteville	Oswego				.12	.13				.49		T.			.39		T.			.12		.70					.07			.52		.15	2.69
Gabriels	St. Regis				.10	.35	.10								.50	T.	1.40		.15			.80	.15						T.	.25	T.		3.80
Harkness	L. Champ'n				.96	.08				.25	.05	.05			.45					.16		.88	.27							.32	.15	.04	3.66
Hemlock Lake	Genesee			.60	.05	1.28					.17			.12		.57			.10			.46					.11		.56	.25	.07		4.34
Hunt	do				.09	.32						.50		.68		.10			.09			.25			.10	.96						.05	3.14
Ithaca	Oswego			.27	.22	T.			.03	.04	.03	.02			.03	.16	.06	.01	.04	.28		.19			T.	T.			T.	1.03	.01	.22	2.64
Keene Valley	Ausable				.06	.48	.71	.09		.05	T.	.34			.26	.21					.15	.38	.09	T.					.03	.06		T.	2.91
King Ferry	Oswego				.89				.21	.60					.09		1.52			.29		.68					T.			1.09		.14	5.57
Lake George	L. Champ'n																																
Lake Placid Club	Ausable, w.b				.42	.40	T.				3.02	.05			.46		.08			.18		1.13	.02						.26	.08			6.10
Lockport	L. Ontario															.13				.25		.70			.08		.05					.11	1.32
Lowville	Black					.18							.17		.20					.09	.01	.10	.93				T.				.11		1.79
Moira	St. Lawrence												T.	T.	.16		.85			.18		.45	T.						T.	.65	.02	T.	2.31
Nehasane	Black					.49	1.98					T.		.02	.36					T.		1.33	.11						T.				4.29
North Lake	do											.27			.61							1.46											2.34
Ogdensburg	St. Lawrence														.30		.38			.32		.44						.26	.22	T.		1.92
Old Forge	Black				.06	.01						.08		.35	.45					.41		.90		.92						.07	.08		3.33
Oswego	L. Ontario			.18							.09	.01		.80		.04	.01		.05	.06		.65				.01	.05		T.	.51		.03	2.49
Otto	Lake Erie			.16	.15	.20	.16		.12	1.00	.40	.55		T.		.16	.02	.16		.05		.21	.02		.15		.25		T.	.16		.05	3.97
Palermo	L. Ontario				.30									.35			.30			.20		.10				.05				.40		.05	1.75
Perry City	Oswego				.25					.24	.37	.09	.03			.09				.30		.26					.02		T.	.56		.17	2.98
Philadelphia	St. Lawrence											T.			.21		.04			.18		1.36	.07						.07	.11	.24		2.28
Potsdam	Raquette															.06		.37			.19			.62						.02	.55		1.81
Raquette Lake	do				.20	.04	.36					.02		.04	.88					.30	1.41		.10										3.35
Rochester	Genesee			.06	T.	.29	.02			.09	.10			.02	T.	.97		T.	.10			.79			T.	.09	.01			.20		.04	2.78
Shortsville	Oswego				.71				.48		.02				.02		.41	T.		.09		1.12			T.		.09			1.76		.05	4.75
Skaneateles	do			T.	.23	T.				.10	.11	.03	.09	.06	.08	.11	.37			.13		.67	.05	T.			.05			.75		.13	2.96
Syracuse	do			1.05	.25						T.	.11		.51		.01	.01		.10	.02		.47				.01	.01		T.	.52	.02	.07	3.16
Tupper Lake	Raquette					.11	T.								.40		.20			.40		.82	.08						.05	.10			2.16
Volusia	Lake Erie						T.					.02			.20	.28	.03			.03		.25			.23		.15			.10		.05	1.34
Wanakena	Oswegatchie				T.	T.	.15				.12	T.			.49	.02	T.			.28		1.46	.05						.08	.06		.07	2.78
Wards Creek	Raquette																																
Watertown	Black											.18			.72		.04			.21		1.81	.02				.02			.14			3.14
Wedgwood	Oswego				.39					1.98	.26	.22	T.			.02	.24		.02			.15			.02				T.	.10		.27	3.67
Westfield	Lake Erie				T.										.31	1.85						.29			.35		.19			.08		.06	3.13
York	L. Ontario			T.	.71	.04				T.	.05	T.			.20	.49	.06			.05		.50	T.		.05	T.	.61		T.	.40	.01	.09	3.26
Youngstown	do										1.53								.03	.07		.53			.08	T.	.05					.03	2.32
Vermont.																																	
Burlington	L. Champ'n				.03					.27	1.20	T.		.19	.08	T.				.06		.67	.09						.35	.01	.16	.13	3.24
Cornwall	do				.10					.40		T.		.03	.20		T.					.91	.15						T.	T.	.05		1.84
Enosburg Falls	do				T.					.43		.48			.25	T.	T.			.14		.47	.50					.03	.07	.33		.29	2.99
Hyde Park	do					T.						.12		.04	.18		.18			.10		.27	.23					.01	.03	.38		.05	1.59
Northfield	do						.43			.05	.24	.01		T.	.40		T.			.75		1.02	.06						.02	.01	.30	.02	3.31
Wells	do									T.		.86			.99					.73		.60	.14							.08	T.	T.	3.40

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Ft. Wayne, Ind.		Upper Michigan.								Lower Michigan.					
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Alpena.		Battle Creek.		Cadillac.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	60	47	77	51	77	56	69	55	70	62	80	57	72	57	81	46	77	50	78	55	77	48	71	45	82	51	77	49
2....	65	52	83	43	84	60	70	56	82	66	84	63	70	60	85	43	79	51	85	59	81	46	70	49	88	61	83	57
3....	78	49	82	61	82	65	87	64	87	72	82	67	72	62	85	58	83	62	85	60	85	59	84	65	85	66	81	68
4....	78	64	86	63	82	68	88	64	89	70	86	68	86	64	85	64	82	62	85	58	83	61	82	68	90	64	85	66
5....	68	54	90	67	90	68	92	65	92	74	87	70	75	67	94	63	84	59	93	59	87	57	78	65	90	71	84	67
6....	87	52	93	67	94	67	84	69	84	75	87	73	80	66	92	66	87	68	98	60	93	63	85	69	90	69	89	67
7....	76	63	87	65	85	69	76	64	81	69	80	70	78	65	87	65	83	64	74	63	86	62	79	70	82	69	82	66
8....	71	59	88	62	92	69	87	65	85	71	84	69	78	65	88	62	90	63	92	64	88	63	79	69	87	67	87	69
9....	81	57	88	66	89	71	91	72	91	74	88	68	88	65	89	72	83	69	91	58	82	62	86	69	91	79	85	70
10....	70	56	79	62	78	65	83	62	84	69	31	67	75	56	75	45	74	56	76	55	71	54	85	61	87	69	83	69
11....	60	51	77	49	75	61	70	60	74	68	86	69	72	52	76	51	67	53	62	51	72	53	70	57	84	65	78	56
12....	70	53	79	56	82	61	84	62	84	69	86	64	73	59	80	55	79	54	80	61	77	50	70	58	89	61	82	59
13....	77	60	78	63	83	65	86	65	86	68	86	67	83	67	82	52	73	61	77	60	72	56	81	61	84	66	78	66
14....	74	51	82	55	85	60	81	69	89	71	89	68	74	60	81	48	83	56	84	62	80	50	70	58	88	61	83	62
15....	65	43	76	50	67	52	82	56	83	59	89	67	72	46	80	42	61	49	69	46	70	47	75	49	86	65	78	54
16....	71	50	71	35	72	50	64	55	62	57	77	61	63	42	73	34	74	47	72	45	67	40	63	48	78	47	73	42
17....	73	54	73	52	76	54	72	53	72	60	84	62	67	54	72	55	70	57	68	56	70	46	70	48	86	59	78	47
18....	64	47	64	46	65	52	71	58	72	61	83	60	62	47	67	40	59	49	56	48	61	46	68	47	77	64	70	55
19....	72	46	73	36	69	48	64	54	65	60	71	53	66	41	75	32	72	47	73	47	69	44	67	43	69	47	69	40
20....	61	54	67	48	60	53	62	56	84	61	78	58	64	51	72	40	68	56	71	54	72	46	69	48	66	58	67	50
21....	65	52	71	53	76	58	69	58	71	62	78	65	70	56	68	48	62	54	63	51	72	54	72	59	76	61	71	55
22....	58	50	74	53	76	58	72	61	72	62	81	61	66	52	72	55	61	54	69	52	70	49	65	55	80	57	74	57
23....	61	50	67	59	68	64	82	62	82	68	82	63	64	61	71	64	73	61	70	61	61	53	63	60	75	61	69	58
24....	83	52	83	62	87	68	87	66	92	78	90	73	74	61	82	68	80	60	71	59	62	57	62	59	88	67	75	64
25....	76	59	76	59	75	62	80	65	85	68	84	64	70	58	79	56	67	57	71	58	63	53	74	60	83	67	74	62
26....	69	56	70	50	72	56	68	60	68	63	76	59	70	56	70	40	67	55	64	55	68	50	74	55	78	48	71	56
27....	88	55	85	49	81	56	77	59	72	63	81	58	72	50	85	45	83	54	87	54	73	46	70	50	80	54	76	49
28....	79	63	81	60	85	63	84	63	85	66	80	67	72	58	80	48	73	58	78	58	73	55	78	61	81	64	76	59
29....	80	58	71	53	78	59	73	63	73	65	79	63	71	53	74	53	72	57	68	56	63	51	76	55	78	60	72	57
30....	70	53	63	51	70	56	72	60	82	63	80	57	62	49	75	52	63	54	59	51	63	46	65	50	78	66	66	53
31....	65	51	66	46	67	52	66	55	66	62	69	55	65	46	70	50	64	53	61	49	60	44	65	46	75	52	65	44
Mns..	71.5	53.6	77.4	54.6	78.1	60.2	77.2	61.2	79.5	66.3	82.2	64.1	71.8	56.3	78.9	52.0	74.0	56.5	75.1	55.6	73.3	52.0	73.1	56.7	82.1	61.5	76.8	57.8

Date.	Lower Michigan.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Detroit.		Muskegon.		Saginaw West Side.		Cleveland.		Lima.		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	77	55	85	54	84	50	77	58	82	57	71	62	72	61	72	54	77	52	76	45	74	47	74	46	71	44	72	36
2....	82	64	84	60	90	58	84	66	84	63	81	64	83	63	79	63	86	60	83	47	82	57	85	59	83	49	82	42
3....	82	68	82	67	87	66	83	68	84	67	82	68	83	67	81	70	83	71	88	56	88	67	89	68	89	55	90	48
4....	84	67	81	64	90	68	81	69	85	65	85	67	85	66	81	70	80	70	87	68	87	69	87	69	88	70	90	56
5....	85	73	89	69	86	73	80	66	88	64	84	78	89	69	82	69	79	70	91	68	89	70	91	70	89	68	90	62
6....	86	71	90	71	93	68	87	68	86	69	88	71	86	71	89	70	91	72	91	69	91	70	92	72	90	72	92	62
7....	86	72	82	70	89	69	88	70	85	68	88	71	84	69	85	70	85	73	92	69	93	71	91	74	93	72	92	63
8....	86	72	85	67	87	69	84	72	87	69	84	72	87	70	84	73	84	74	92	65	93	72	93	72	94	69	92	63
9....	86	71	85	73	91	68	86	70	90	67	89	70	89	70	82	72	84	73	91	72	89	72	90	71	90	68	90	64
10....	86	67	83	70	89	72	86	72	80	66	88	69	85	69	85	73	81	73	92	72	89	70	90	72	92	66	94	63
11....	83	64	79	62	82	63	77	71	84	68	80	71	83	67	78	70	81	70	78	62	77	68	79	67	80	68	79	62
12....	83	62	84	60	88	60	80	64	87	61	81	66	86	67	78	68	83	63	82	54	81	65	80	61	79	62	81	56
13....	81	67	80	65	82	68	85	68	88	68	88	70	85	70	85	67	84	68	88	56	90	66	89	66	87	59	83	56
14....	87	70	87	61	89	62	80	68	90	67	83	68	89	70	81	70	81	72	87	65	84	70	87	69	84	69	84	64
15....	87	60	83	65	87	67	83	63	91	71	83	65	91	62	92	64	83	60	92	61	94	65	91	71	89	72	89	61
16....	72	52	72	44	77	45	70	58	78	57	71	62	71	53	72	62	73	58	69	51	69	59	73	58	76	51	76	46
17....	80	60	76	54	87	57	74	66	85	61	77	67	79	62	77	67	80	60	79	45	74	59	82	58	78	48	78	40
18....	78	57	76	62	77	61	77	61	85	66	79	63	78	58	80	60	82	56	83	54	84	58	84	60	82	57	83	57
19....	67	50	68	44	72	43	63	58	72	52	66	59	67	52	66	57	66	50	66	54	66	54	64	57	66	57	67	45
20....	68	59	69	50	70	49	72	58	80	56	71	59	69	59	73	55	75	56	74	49	78	50	76	50	77	50	75	43
21....	73	63	69	49	75	57	75	66	81	63	78	68	77	66	77	65	72	60	63	56	73	60	74	59	63	59	61	51
22....	76	60	75	56	71	57	73	64	80	64	77	66	77	63	70	63	71	59	69	53	71	59	68	57	66	57	64	48
23....	77	58	73	64	76	58	75	59	82	58	79	63	79	63	70	57	72	53	70	41	69	56	66	51	68	51	65	42
24....	84	64	83	67	80	63	76	63	92	68	82	68	87	68	68	60	72	58	73	43	73	59	75	53	72	45	69	38
25....	85	65	77	70	84	64	77	66	86	69	83	67	88	65	72	59	74	58	77	43	76	55	74	51	74	45	72	38
26....	75	61	71	62	78	58	70	64	76	61	70	65	73	62	71	62	75	59	76	54	76	60	73	57	75	50	72	42
27....	79	60	71	55	80	52	72	63	80	58	76	65	81	60	70	57	70	56	72	52	72	55	67	56	70	54	67	46
28....	77	64	73	60	77	61	78	61	80	63	81	64	80	65	74	61	71	64	74	56	80	58	82	59	66	48	72	44
29....	76	61	72	55	79	60	69	65	79	65	73	65	75	63	73	63	72	62	72	57	74	64	73	63	70	50	75	52
30....	72	54	71	54	70	55	70	62	80	55	73	60	78	58	70	58	70	57	72	52	73	58	71	59	73	53	76	49
31....	69	52	69	54	69	48	64	56	70	57	66	61	68	53	64	53	68	54	65	47	66	56	66	52	64	50	67	47
Mns..	79.6	62.7	77.9	60.6	81.8	60.3	77.3	64.6	83.1	63.3	79.3	65.9	80.8	63.9	76.8	63.9	77.6	62.6	79.5	56.0	80.0	61.9	79.9	61.5	78.6	58.0	78.7	51.2

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

The chief feature of climatological interest in July, 1912, over the upper Mississippi Valley was the abnormally heavy rainfall at many points. The precipitation in the upper Wisconsin Valley was especially heavy and resulted in a disastrous flood in that section, an account of which follows in a separate article Thunderstorms were more numerous than usual and in many cases were of a damaging character. Descriptions of some of these appear under other headings In North Dakota the month was notable for many hailstorms, and considerable damage to crops and buildings was caused therefrom In the same State there was the rather unusual phenomenon of a heavy frost on the 15th, resulting in damage to crops and gardens, but the damage was greatest in that part of the State lying in the Missouri watershed Frost was reported also from points in Minnesota and Wisconsin on the 15th, 16th, and 19th

Over most of the district the month was seasonable so far as temperature conditions are concerned; the average departure of the mean temperature from the normal being negligible. Owing to the absence of lengthy periods of high temperature the month, in popular opinion, was regarded as a cool one, even in those districts where there was a slight excess of temperature.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

Parts of States within District 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota	65.6	−0.7	100	30	3.96	+0.98	8.87	1.95	.....	12
Minnesota	68.7	−0.5	98	31	4.48	+1.34	8.85	1.50	.....	11
South Dakota	68.8	−0.2	90	41	6.80	+2.94	8.02	5.58	.....	11
Wisconsin	69.3	−0.3	100	28	6.12	+2.98	15.26	1.40	.....	10
Iowa	74.3	+0.8	102	42	4.03	+0.15	7.56	1.61	.....	10
Missouri	78.0	+1.2	104	53	2.02	−1.78	4.11	0.18	.....	6
Indiana	71.7	−1.9	93	47	6.19	+1.42	8.30	3.42	.....	11
Illinois	75.5	+0.3	100	43	3.92	+0.17	8.84	0.69	.....	8

TEMPERATURE.

An inspection of Table No 1, which gives the departure of the mean temperature from the normal, for those stations having a record covering 10 years or more, will show how general was the prevalence of seasonable temperature conditions over the district The small departures everywhere are striking. The average temperature for all stations was 71 5°, which may be regarded as the normal temperature of this district for July.

The month was very slightly cooler than usual in northern sections and correspondingly warmer than usual in southern sections The highest monthly mean temperature was 80 1°, at Steffenville, Mo , which station also reported the highest temperature for the month, 104°. Thirteen other stations in the district reported a temperature of 100° or higher sometime within the month The lowest monthly mean was 61 8°, at Donnybrook, N Dak

A notable feature of the temperature conditions of the month was the absence of any very extended period of hot weather. While the usual number of hot days occurred, especially in southern sections, they did not occur consecutively, but were scattered over the month. As it was, however, the first half of the month was warmer than the latter half The third week was cool throughout, with frost reported from the northern States on two or three dates. At Bottineau, N Dak , the temperature on the 15th fell to 30°, the lowest reported for the month.

PRECIPITATION.

The month was notably wet at many points in the district, at some stations being the wettest July on record. One station each in the North Dakota, Minnesota, South Dakota, and Indiana areas, 4 in the Illinois, and 12 in the Wisconsin reported more than 8 inches of rainfall for the month. Three stations in the Wisconsin area had more than 10 inches, the extraordinary amount of 15.26 inches being measured at Merrill, Wis. Eleven and twenty-five hundredths inches of this fell on the 23d and 24th.

The average precipitation for the 333 stations in the district that reported was 4.46 inches, or 0.79 inch greater than the normal. In Wisconsin, the wettest section, the fall averaged more than 6 inches. Only 4 stations in the district reported less than an inch, the least being 0.18 inch, at Vandalia, Mo.

Usually the geographical distribution of precipitation in July in this district is quite irregular and that for the current month was no exception to the rule. One of the most striking illustrations of this irregularity is shown by comparing the monthly amounts at Edwardsburg and Coastsburg stations in Illinois about 105 miles apart. At Edwardsburg 8.84 inches occurred, while at Coatsburg the fall was but 0.83 inch.

Except over an area in west-central Illinois and in the Missouri area, where comparatively little precipitation occurred during the latter half of the month and where drouthy conditions prevailed at the close, the precipitation of the month was well distributed in point of time. Even in some of the individual States rainfall occurred somewhere daily.

Fifty-three stations reported 2.5 inches or more rainfall in a 24-hour period. Moreover, excessively heavy precipitation for short intervals of time occurred somewhere in the district on one-half the days of the month. The average number of rainy days for all the stations was 10.

RIVERS.

The principal event of the month was the flood on the Wisconsin River, which was caused by torrential rainfalls over the upper watershed on the 23d and 24th. The losses aggregated more than half a million dollars. A full report on this flood appears elsewhere in a separate article.

The stage of water in the upper Mississippi River was amply sufficient for navigation all the month.

MISCELLANEOUS.

Winds from a southerly direction predominated, the prevailing direction being south at 90 stations, southwest at 75, and southeast at 52. The highest velocity reported was 80 miles an hour, from the northwest at Minneapolis, Minn., on the 12th in connection with the severe thunderstorm there on that date. For one minute the wind blew at the rate of 90 miles an hour.

The percentage of sunshine for the district as a whole was about 70, which is close to the normal. There was a slight deficiency in the north and a corresponding excess in the south. The average number of clear days was 15; partly cloudy, 11; cloudy, 5.

LOCAL STORMS IN JULY, 1912.

By U. G. PURSSELL, Section Director, Minneapolis, Minn.

Severe local storms occurred at Campbell on the 8th, buildings being blown down; at Fergus Falls on the 8th–9th much damage was done to trees and buildings; at Grand Meadow a tornado overturned many windmills and did much damage to trees, crops, and barns.

By CLARENCE J. ROOT, Section Director, Springfield, Ill.

Sone unusually heavy rainfalls were reported from various sections of the State. The principal of these was at Alton on the night of the 13th–14th. No station is maintained at Alton, but our observer at Edwardsville, 13 miles distant, Mr. W. H. Morgan, says "The storm of the 13th–14th began as a light rain at 11 p. m. of the 13th, increasing until 12.30 a. m. of the 14th, from which time it rained until 3 a. m. with terrific violence. (Total, 6 inches.)" District Forcaster Montrose W. Hayes, of the St. Louis station, visited Alton in person and made a full and complete report of the storm, which appears elsewhere. A heavy rain at Lake Como in the northern part of the State on the 13th washed out the tracks of the Chicago & Northwestern Railway. The observer at Mascoutah says, "On the 6th, 4 miles south of here in Englemen Township, there was a heavy rain (3.6 inches), attended by thunder and lightning, while only 0.2 inch fell here and 4 miles north it did not lay the dust." The heaviest downpour in the history of the station occurred at Springfield on the 6th. Two and seventy-four one-hundredths inches of rain fell in one hour, and 1 inch in a fraction over 11 minutes. The greatest previous record for 1 hour was 1.57 inches, June 7, 1896. Cellars and basements were flooded. Damage by washing occurred in the parks and the street-car subways were impassable. Heavy rains occurred on the 20th and 21st in the northern part of the State. At Freeport the Pecatonica River caused considerable damage from high water. Crops, while injured in places were greatly benefited by the rain. In Fulton County the Spoon River overflowed portions of the bottom, destroying much corn and oats. A heavy rain of 2.67 inches fell at Peoria. Thousands of dollars damage was done in Peoria and the surrounding country. Peoria is rather hilly and the water running through the ravines caused considerable washing. The storm was at its worst in the upper end of the city, where many basements were flooded and some walls injured. In the country some bridges were carried away and crops suffered heavily. At Antioch, on the 13th, 5.1 inches of rain fell in five hours.

As a result of the numerous thunderstorms, much damage was caused by lightning and wind. The following notes contain the information available at this office:

Mr. R. T. Lindley, local forecaster, Cairo, Ill., reports as follows regarding a storm at Cairo on July 5, 1912: "A local storm, described in the press as a tornado, but which appears not to have had the funnel-shaped cloud characteristic of the tornado, crossed this city between 4 and 5 p. m. The undersigned was absent from the city at the time of occurrence, but from the description of accurate observers the storm was probably a squall, attending the passage of a severe thunderstorm. Lightning struck the building in which our office is located within a few feet of the instrument shelter, the damage being slight. The extreme velocity of the wind was 75 miles an hour, at 4.28 p. m. Considerable damage was done, one building being blown down and an occupant thereof sustaining severe injuries. Some of the streets were well-nigh impassable on account of uprooted trees, and telephone wires were broken in many places. The roof of a small restaurant building was blown for a block and some loose portions of the roof struck a passing street car laden with passengers, breaking several windows of the car, but injuring no one seriously."

During the severe thunderstorm in Springfield on the 6th, six men were rendered unconscious when lightning struck a tree near the tent of Maj. Davis at Camp Lincoln. All recovered. Telephone and electric light lines suffered severely and street-car service was demoralized. On the 28th another thunderstorm resulted in a fire in a furniture store in which stock and property to the amount of $45,000 was destroyed. Some street cars were reported to have been damaged also. A 10-year old boy, Ezra Haines of Mason City, was struck and instantly killed by lighting about 3 o'clock in the afternoon of the 9th. During the electric storm of the 29th at Pecatonia lightning struck a barn on a near-by farm, destroying the structure together with the hay and machinery stored therein. At Rockton lightning struck a greenhouse, destroying two buildings and their contents. A severe electric and wind storm swept over Shelbyville between 8 and 9 o'clock on the night of the 13th. In this storm there is indisputable evidence of tornadic action. Observers report a funnel-shaped cloud, which left a path of destruction 1,500 feet wide. A house was struck by lighting and burned and a church was badly damaged as were several residences. No lives were lost. S. P. Peterson, observer La Salle, Ill., reports as follows: "A severe thunderstorm occurred on the 1st. A large barn in this city was struck by lightning and destroyed. The loss is estimated at $3,000." Unusually large hail fell at Bloomington on the 28th, some stones measuring 1½ inches in diameter. There was no great damage. Forest City was visited by a severe storm on the afternoon of the 28th. Considerable damage was done to property.

By V. H. CHURCH, Section Director, Indianapolis, Ind.

Thunderstorms were very frequent and were accompanied in some instances by excessively heavy local showers. A fall of 3.19 inches was recorded at Plymouth

on the 7th. Two and eleven one hundredths inches fell at South Bend on the 13th, more than one-half of which fell within a very few minutes, causing some damage in the business section of the city by the flooding of basements. A storm on the 30th at Plymouth was accompanied by hail. The observer at Plymouth states that no damage resulted from it at Plymouth, but that crops in the eastern half of Marshall County were injured to some extent. The observers at Knox and South Bend recorded 13 thunderstorms at their respective stations.

A PHENOMENALLY HEAVY RAIN AT ALTON, ILL.

By MONTROSE W. HAYES, District Forecaster, St. Louis, Mo.

During the summer half-year local thunderstorms accompanied by rainfall of several inches occur frequently enough to cause no more than passing comment, and doubtless there is no locality to the east of the Rockies that has not a record of a rain of 4 or 5 inches in less than 24 hours, which is popularly referred to as a "cloud-burst." While 24-hour rains of 4, 5, or even 6 inches probably have fallen once or twice in many sections of the central part of the country in the last 30 or 40 years, when the fall gets much above 6 inches it should have a place in the list of very unusual phenomena.

At Alton, Ill., there was a rain during the night of July 13–14 that was, it is believed, unprecedented in the meteorological history of the middle Mississippi Valley.

July 13 was seasonably hot; at 7 p. m. there was an atmospheric depression over eastern New Mexico and southeastern Colorado, and a deeper depression extended from northern Nevada into North Dakota, with its center over eastern Montana and western North Dakota. There was an area of high pressure along the entire Atlantic coast, but the difference between the pressure extremes was only 0.62 inch. The weather was generally fair in all the territory to the east of the Rockies.

About 8 p. m. of the 13th occasional flashes of lightning were observed just above the horizon, in all directions. The display became more brilliant gradually, and shortly after 9 p. m. the whole sky was illumined by almost incessant sheetlike flashes. This continued, but with an increasing intensity, until about 12.50 a. m., when loud peals of thunder were heard and torrential rain began. Peculiarly, there was very little loud thunder during the first half of the night, although there were flashes, one following the other with an almost imperceptible intermission at all points of the compass. The flashes up to 12.50 a. m., or the approximate time of the first loud thunder, were mostly sheet lightning. As nearly as could be ascertained, light rain began about 11 p. m.; the heavy rain fell from 12.50 a. m. to 4 a. m.; more than 9.22 inches fell in the entire storm. There is no rain gage in Alton; the nearest is in East Alton, five miles from the part of Alton in which it is thought the precipitation was the heaviest; this gage caught 5.60 inches. In Alton several empty buckets and jars that had been left in places favorable for the measurement of rainfall were filled; after applying the formulæ to ascertain the value of the contents of these vessels in inches and hundredths of rainfall, it was found that the deepest contained 9.22 inches. An empty washtub left in a yard overnight caught 9.50 inches, but was not filled. Unfortunately, the exact dimensions of this tub were not known and a reduction of the 9.50 inches could not be made.

The following evidences of the amount of rainfall were obtained from reliable sources by Mr. L. D. Yager, of Alton:

1. At the home of Reinhold Gossrau, 430 East Ninth Street, being about six blocks east of Ninth and Belle Streets, where the great damage was done, three buckets, to wit, a candy bucket, and two ordinary iron buckets, were in the yard, free from drippings or other outside influence. Saturday night they were empty; Sunday morning they were full.

2. At the home of Hon. John J. Brenholt, corporation counsel of the city of Alton, there were five concrete pillars set for the outside of a porch. They were a foot square, with 2-inch solid concrete on the outer edges, leaving a space 8 inches hollow in the center. In these columns there were found to be 7 inches of water after the great rainfall.

3. At the home of Joseph Curdie, 1607 Henry Street, an ordinary iron bucket left in the yard, and being out in the open, was found filled in the morning.

4. At the home of Mrs. Elizabeth Harris, 920 Burns Street, a tub left in the yard was found to be full Sunday morning; also, an iron bucket that had been placed on the cistern box on Saturday evening, in an empty condition, was found filled on Sunday morning.

5. At the boat dock of W. D. Fluent there were about 12 skiffs, all of which were overflowed within an hour after the heavy rain began. The heavy downpour began about 10 minutes to 1 o'clock on Sunday morning. Taking into account the flare of the skiffs and the curvature from stem to stern, it would be reasonable to assume that the actual depth was about 40 per cent of the depth measured. The skiffs average about 14 inches deep, making approximately 5.6 inches of rain in the first hour. Mr. Charles Norman, who was in charge of the dock, estimates the rainfall between 8 and 10 inches from 12.50 to 3.30 Sunday morning.

6. William Bradish, of 728 Langdon Street, states he is a member of the firm of Webb & Bradish, having a boathouse at the foot of State Street. They had 14 skiffs in the water, and when he came down early Sunday morning all the skiffs were filled with water. The 40 per cent estimate ought to apply here.

7. At the Equitable Powder Co.'s plant a rain gage had been established on account of a lawsuit involving rainfall. This plant is 5 miles east of the main point of destruction in Alton, and it is generally conceded that the rainfall at the powder plant was not so heavy as in Alton proper. On account of the flood no reading of the gage could be made until 2 p. m., Monday, July 15. The gauge then showed 5.6 inches, and it was estimated by Theodore Masel, the mechanician of the company, and Richard Stout, secretary, that the evaporation amounted to enough to have made the rainfall at the end of the storm to be about 6.5 inches. The gage used is practically the same as used by the United States Weather Bureau, having an 8-inch opening at the top.

8. At the store of Mr. Baum, in West Alton, Mo., about 4 miles southwest of the main point of destruction in Alton, there were two milk jars left in the yard on Saturday evening and in an empty condition. The jars are about 10 inches deep and the sides are straight up and down. These jars were found filled with water on Sunday morning.

9. L. D. Yager, compiler of this report, watched the storm from 12.50 a. m., Sunday until 3.30 a. m., same day. At first wind and clouds were from the east; at about 2 a. m. the wind and clouds were from the south, and at about 3 o'clock the wind and clouds were from the west, indicating that the storm hovered over the city and really crossed three times.

The damage done by water (there was practically no damage by lightning) was greatly augmented by the topography of Alton, which is an unusually hilly place. Belle Street, the scene of the greatest hovoc, lies between two precipitous hills, and its extremity farthest from the river is steep.

At Twelfth and Belle Streets the water was over the curbstones at 1.15 a. m. After this the rate of rise is problematical, but mud lines on houses in Belle Street, below the steep portion of the thoroughfare, show that at some time there was a torrent 7 feet deep. In the principal business portion of the city the water was 2 to 3 feet deep and much damage was done to goods. Basements were filled with water and a heavy deposit of mud was left.

A 7-foot masonry sewer in Belle Street gave way in several places under the hydrostatic pressure and the street was washed out to a depth of 20 feet. This sewer gave way under the Alton Gas Works and a portion of the plant was wrecked. Small houses were washed away and in numerous houses several inches of mud was left on the first floor. Four persons were drowned by being caught in low-ceiled rooms. In some of the other streets paving bricks and macadam were washed out and the street bed eroded several feet.

The entire damage is conservatively estimated at $250,000.

The storm was severest at Alton, but was very heavy along the river, particularly on the east side, from slightly above Alton to a short distance below St. Louis. In St. Louis rain fell from 2.32 a. m. to 4.52 a. m.; the total amount was 3.16 inches, of which 2.95 inches fell in one hour. This is the heaviest rainfall for one hour ever recorded in St. Louis. The nearest approach to it was in 1873, when 2.93 inches fell in one hour on June 9.

The weather chart prepared on observations made at 7 a. m., July 14, showed gradually increasing pressure from a depression over the Rocky Mountain slope (with its center near Winnipeg, Manitoba) to a wave of high pressure over the Atlantic seaboard; in the 24 hours just ended there had been no rain in the Mississippi Valley except over the limited territory covered by the storm just described.

SEVERE THUNDER STORM AT MINNEAPOLIS, MINN., JULY 12, 1912.

By MARTIN R. HOVDE, Assistant Observer.

Late in the afternoon of July 12, 1912, an unusually severe thunderstorm passed over Minneapolis. Excepting the tornadic disturbance of August, 1904, the storm was the most terrific the city had ever experienced. The morning weather map revealed an area of low pressure extending from the Canadian Province of Manitoba southward to Mexico with its center over eastern South Dakota and Nebraska. It foreboded unsettled weather and showers for eastern Minnesota. The day opened with light to fresh southeasterly and southerly winds, and occasional showers. By midday the temperature began to rise rapidly and the sky became generally clear. The barometer was falling slowly. Shortly before 4 p. m. the sky clouded rapidly in the west and southwest, and the thunderstorm and darkness approached. At 4.35 p. m. the rain began to fall at an excessive rate coincident with the sudden, outrushing squall. At 4.36 p. m. the extreme wind velocity was 90 miles an hour and for a five-minute period, 80 miles. Backing winds indicated a passage to the south of station. After a short interval (about 20 minutes) excessive rain set in again, 0.7 inch being recorded in 15 minutes. Before the hour had passed another storm was passing, winds now veering to southwest. An extreme velocity of 60 miles an hour was recorded at 6.07 p. m. The suddenness and severity of the winds may be inferred when one considers that the total wind movement for the hour of 4 to 5 and 6 to 7 p. m. were but 23 and 6 miles, respectively.

The total damage is conservatively estimated at $25,000, confined principally to erosion of streets, blowing away of awnings, signs, etc., breakage of trees and windows, and flooding of low places and basements. Three lives were lost and a score of people were injured.

In a storm of this nature many curious and interesting experiences happen. A few are given, taken from the local press:

J. H. Rose saw the wind lift Leonard Gripp's garage from its foundation next door and carry the building 50 feet away. The automobile was left on the floor unharmed.

Fire Chief Ringer had to open the auto doors to let the rain water out of the machine while motoring to a fire.

Assistant Fire Chief Hamilton's auto was submerged in the street while responding to an alarm.

A strong gust of wind seized a delivery wagon and rolling the horse and wagon over and over carried the outfit across the street and dumped it down a steep incline into a ditch.

WISCONSIN RIVER FLOOD, JULY, 1912.

By JAMES H. SPENCER, Local Forecaster, Dubuque, Iowa.

The Wisconsin River flood from Rothschild to Merrill on the 23d and 24th of July, 1912, was one of the worst, if not the worst, on record for that section of the country. Conservative estimates place the loss at more than one-half million dollars. Torrential rains fell on the 23d immediately north and northeast of Wausau. At Merrill, Lincoln County, 11.25 inches was recorded. Only an inch fell at Grand Rapids, and 1.16 inches at Rhinelander, while Wausau reports 4.50 inches; Prentice, 5.09 inches; Koepenick, 3.20 inches; and Antigo, 6.03 inches.

It was the great rainfall in Lincoln County that caused the flood. The result of the enormous downpour at Merrill is thus described in the Grand Rapids, Wis., Reporter, by Hon. Neal Brown, of Wausau:

A wall of water came down the river, taking out one dam after another. At Brokaw they didn't even have time to open the gates.

Mr. Brown further states in the Reporter that the flood loss is several hundred thousand dollars, and that among the dams carried out were the Wisconsin River Dam at Merrill; the Prairie River Dam of the Merrill Paper Co.; the Brokaw dam; the guard-lock Dam at Wausau; a small dam of the Wausau Street Railroad Co.; a part of the Brooks & Ross Dam at Schofield; while the cofferdam of the Marathon Paper Mills at Rothschild was blown out to relieve the pressure. Four bridges at Wausau and one at Schofield were carried out in whole or in part. Several million feet of logs between Wausau and Merrill were carried downstream, but a large amount was recovered. (See also Mr. Brown's letter at the close of this report.)

In an account of the flood the Wausau Record-Herald of July 24, 1912, says:

The "Old Wisconse" went on a tear last night and continued the work of devastation to-day. The heavy and constant rainfall of 24 hours resulted in an extraordinary high stage of water last night, and about 10 o'clock the dam at Brokaw gave way, being unable to stand the strain. A telephone alarm was at once sent to this city, but before precautionary measures could be taken the crest of the flood was here. The water rose to an unusual height, said to be greater than for years.

As a matter of fact, the water at Wausau rose to 15.3 feet, or the highest ever known there by nearly 2 feet. It was about 1.8 feet higher than in September, 1881; about 4.1 feet higher than in September, 1900; and 4 feet higher than in October, 1911. The rise was from 3.6 feet at 7 a. m. of the 23d to 15.3 feet at about 10.30 a. m. of the 24th, or 11.7 feet in 27½ hours.

Mr. A. W. Trevill, postmaster at Wausau, reports as follows relative to the flood:

WAUSAU, WIS., *July 30, 1912.*

Information here given was obtained from the parties sustaining the loss, and is, I think, a fair estimate:

Barker & Stewart Lumber Co.	$20,000
J. Mortenson Lumber Co.	25,000
Wausau Street R. R. Co.	20,000
A. Kickbusch Grocery Co.	3,000
The Northern Milling Co.	1,500
Badger Turpentine Co.	3,000
B. Heineman Lumber Co.	5,000
Brokaw Paper Co.	30,000
Marathon Paper Co.	30,000
John Manser Saw Mill	10,000
Brooks & Ross Lumber Co.	10,000
City of Wausau	35,000
Chicago, Milwaukee & St. Paul R. R.	20,000
Chicago & Northwestern R. R.	20,000
Total	232,500

The flood was not caused by the going out of the Brokaw Dam, but by the heavy rains in this locality and farther north. In fact, Merrill, 15 miles above Brokaw, had as high water as Wausau, if not higher. Only about 125 feet of the Brokaw Dam went out, and that was an earth embankment, which went out slowly, so that it had little if any effect on the river below. It was noticed at 9 or 10 p. m. that the river was rising fast here. Rain had fallen all day here, a total of 4.5 inches. At Merrill, 18 miles above us, 11.25 inches fell during the 24 hours of the 23d of July, and they had such a rain over quite a large territory.

The damage was not all confined to the vicinity of Wausau. There were numerous losses at Merrill, and also in towns on some of the small tributaries of the Wisconsin.

As soon as the severity of the flood at Wausau was known, flood warnings were issued for Stevens Point, Grand Rapids, and Nekoosa Later special forecasts of high water were issued from the mouth of the Wisconsin River to Kilbourn. These were of some value, but the flood crest "flattened out" quickly, and little damage resulted below Stevens Point At Stevens Point, according to the newspapers, the highest stage was only 6 inches below the highest stage of last October, and some farmers sustained severe losses Growing crops were ruined, and considerable rye in shock was swept away

The highest water at most points from Grand Rapids to the mouth of the Wisconsin River was from 2 to 3 feet below the highest stage reached during last October's flood, as shown by the following table:

	October, 1911.	July, 1912.
	Feet.	*Feet.*
Wausau, Wis.	11.3	15.3
Grand Rapids, Wis.	13.6	10.9
Portage, Wis.	12.9	10.1
Muscoda, Wis.	9.8	6.9

The water rose 11 7 feet in 27½ hours at Wausau; 10.1 feet in 3 days, 5 hours at Grand Rapids, and 6 8 in about 4 days at Portage About a day longer was required for the flood crest to travel from Wausau to the mouth of the Wisconsin River than last October.

Warnings to Wausau and vicinity from this office were impossible The rainfall that caused the flood was of the nature of a cloudburst in the vicinity of Merrill, and the rise of the river was so rapid that the damage was done in the valley from Rothschild to Merrill almost before the people were aware of the danger

Telegraph wires were taken down by the storm, and no word of the severity of the storm or flood reached this office until many hours after the damage was done

This office wrote to Mr Brown for further information concerning the flood, and under date of August 6, 1912, he says in part:

The dam that went out on Prairie River was a 15-foot dam near the city of Merrill, and used by the Merrill Paper Co. The pondage of this dam was not large, but added something to the volume of water that destroyed property in Merrill and below.

I have been east of here since the flood over different routes. The general boundaries of the cloudburst, as near as I can estimate, are as follows: It commenced some short distance west of Merrill, and extended both north and south of Merrill a short distance. I should judge in a general way this strip was about 20 miles in width north and south. It extended in a southeast direction through the northeast part of Marathon County. Antigo seems to have been on the northern edge. I think directly east of here, about 25 miles, was the center of heaviest precipitation. How far it extended in an easterly direction I do not know, but I think as far as the Wolf River, probably farther.

On what is called the west branch of the Wolf River, on the Indian reservation, a small stream running in above the Neopit mill, there were four dams that I know of. The one called the Pinchot dam and the Pine dam below it were taken out. The two upper dams on this stream remain, so far as I can learn. Southeast of the village of Phlox the Government road crosses this stream on a timber bridge. I was there, and as near as I can make out the full force of the cloudburst was a little south of this point, because this bridge was intact. When the Pinchot dam went out the river gouged out its old channel through the pond, so that it looks like a gigantic furrow, with stumps and logs and trees thrown up on each side.

On all the streams that extended through the heavy flood area the water was the highest ever known. In some cases the topography and shores of the streams were changed. Old dams that had been in 25 years or more were utterly swept away. Trees and bushes along the shore were uprooted. In places were gigantic trees had fallen across one of these streams perhaps more than half a century ago they were taken out and piled up on the shore.

I think at least half of the bridges and dams in the flood area were taken out. I saw iron bridges on small streams that had been carried bodily away. In this flood area I saw settlers, living on fairly level farms, who told me their farms looked like a lake. In many instances the water was 4 or 5 feet above highways that had theretofore been above the highest flood known

The highway bridge in the village of Schofield was carried completely out. This was an iron bridge with concrete abutments. One of the middle abutments was also taken out. Three miles above this, on the same river, the Eau Claire, the highway bridge and dam were taken out. Two miles farther up another old dam was taken out.

I understand about 50 highway bridges were taken out in this county. I presume this is underestimated, if we include many smaller bridges. West from the Wisconsin River in this county no particular damage was done.

Flood losses at Merrill, Wis , and in Lincoln County reported by Postmaster F W. Kubasta, under date of August 9, 1912, are as follows:

Merrill Railway & Lighting Co., damage to dam and plant	$30,000
Grandfather Falls Co., damage to dam and plant and pulp wood lost	25,000
Lindaur Pulp & Manufacturing Co., damage to plant and pulp wood lost	30,000
Merrill Excelsior Co., damage to grounds and wood lost	10,000
A. Arveson Excelsior Co., wood lost	2,500
Wright Lumber Co., damage to grounds and mill, and lumber lost	5,000
A. H. Stange Co., damage to grounds and railway track, and lumber lost	10,000
Merrill Boom Co., damage to dam	15,000
Damage to city parks, streets, etc	15,000
Minor losses	7,500
Damage to roads, bridges, etc., in Lincoln County	60,000
Total	210,000

TABLE 1.—*Climatological data for July, 1912. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	954	15	69.4	+ 2.0	100	6	38	15	40	3.06	− 0.72	1.60	0	6	17	3	11	nw.	C. E. Wood.
Bottineau	Bottineau	1,638	17	64.0	− 1.9	93	1	30	15	45	2.08	− 0.14	0.52	0	16	10	8	13	nw.	W. M. Mills.
Bowbells	Burke	1,958	....	62.5	.....	93	1	36	15†	40	2.79	.....	0.45	0	13	17	1	13	.....	G. H. Phelps.
Cando	Towner	1,488	11	64.0[e]	− 0.2	92	27†	31	15	44	3.50	− 0.32	1.00	0	9	....	....	....	.....	E. T. Judd.
Crosby	Divide	....	6	62.4	.....	85	1†	35	15	41	3.35	.....	0.90	0	9	19	7	5	nw.	H. C. Kaschau.
Devils Lake	Ramsey	1,482	7	65.3	− 2.8	88	1	41	15	33	7.44	+ 3.66	2.12	0	14	9	15	7	nw.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	13	61.8	− 2.7	92	1	33	15†	41	3.86	+ 0.82	1.75	0	13	13	9	9	nw.	C. J. DeVore.
Dunseith	Rolette	....	15	63.6	− 1.6	92	1	31	15	41	2.80	+ 0.34	0.46	0	15	5	13	13	w.	C. E. Goodsell.
Edmore	Ramsey	1,524	7	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	M. M. Van Osdel.
Fessenden	Wells	1,610	....	64.4	.....	91	22	35	15	39	3.18	.....	1.11	0	12	12	13	6	nw.	G. T. Seymour.
Forman	Sargent	1,249	18	70.4	+ 1.5	91	1†	40	15	32	4.81	+ 2.16	1.55	0	9	14	12	5	nw.	A. Maltby.
Grafton	Walsh	857	21	66.4	− 0.7	93[a]	29	36[a]	15	36	2.63	+ 0.64	0.53	0	15	10	11	10	w.	A. R. T. Wylie.
Granville	McHenry	1,504	6	64.2	.....	94	1	37	15	37	3.47	.....	1.21	0	10	5	23	3	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	7	....	.....	....	....	....	....	....	7.68	.....	2.52	0	11	....	....	....	.....	J. Moffatt.
Hansboro	Towner	....	4	63.1	.....	91	1	33	15	38	2.63	.....	0.85	0	12	19	9	3	nw.	Geo. Dale.
Hillsboro	Traill	901	7	69.4	.....	91	1	39	15	29	3.10	.....	0.70	0	13	19	10	2	nw.	F. E. Mayall.
Lakota	Nelson	1,579	6	64.2	.....	87	1	34[b]	15	34[b]	3.93	.....	1.15	0	11	2	24	5	sw.	C. R. Pettes.
Langdon	Cavalier	1,615	17	63.0	.....	91	1	35	15	40	5.25	.....	1.19	0	15	15	0	16	w.	J. Woolner.
Larimore	Grand Forks	1,134	17	65.9	− 0.2	90	1	38	15	36	4.74	+ 1.53	2.65	0	13	11	16	4	n.	J. M. Freeman.
Lisbon	Ransom	1,091	8	68.5	+ 0.9	89	1†	37	15	38	4.88	+ 1.54	1.40	0	14	13	4	14	nw.	W. S. Adams.
McKinney	Rendville	1,640	18	63.2	− 2.6	99	1	33	18	42	5.00	+ 2.83	1.70	0	11	3	22	6	nw.	N. P. Swenson.
McLeod	Ransom	....	....	....	.....	....	....	....	....	....	3.07	.....	1.00	0	8	10	15	6	nw.	Martin Reinholt.
Manfred	Wells	1,605	11	65.6	.....	92	1†	35	15	40	2.49	.....	0.83	0	12	12	16	3	nw.	P. B. Anderson.
Mayville	Traill	975	16	68.8	+ 0.9	93	1	38	15	34	5.75	+ 2.23	1.93	0	11	20	2	9	sw.	W. C. Gould.
Minot	Ward	1,557	14	64.4[e]	− 4.2	93[c]	1†	34[e]	15	42[f]	3.29	+ 1.53	0.89	0	10	....	....	....	w.	W. J. Ellison.
Minto	Walsh	820	19	67.0	0.0	93[b]	1	38[b]	15	39[c]	4.28	+ 1.41	1.51	0	10	13	8	10	nw.	S. S. Marsh.
Oriska	Barnes	1,270	7	66.2	.....	88	8†	38	18	34	3.00	.....	0.98	0	9	8	22	1	nw.	J. J. Taylor.
Park River	Walsh	998	9	67.1	.....	92	1	38	15	34	3.91	.....	1.45	0	12	15	10	6	sw.	P. J. Prochaska.
Pembina	Pembina	789	14	66.0	− 0.1	93	6	34	18	34	4.24	+ 1.35	1.10	0	15	14	2	15	w.	C. W. Shumaker.
Power	Richland	1,020	20	69.3	+ 0.6	87	1†	40	15	37	1.95	− 1.55	0.65	0	10	14	11	6	se.	J. A. Power.
Pratt	McHenry	....	7	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	W. B. Ahern.
Towner	do	....	4	65.0	.....	91	26	34	15	40	3.34	.....	1.55	0	13	4	20	7	nw.	B. Bagley.
University	Grand Forks	830	20	66.6	− 0.4	88	1	38	15	30	4.69	+ 2.20	0.92	0	16	10	12	9	s.	U. S. Weather Bureau.
Wahpeton	Richland	962	20	71.0	+ 1.0	96	6	39	13	51	3.04	− 1.11	0.80	0	12	17	8	6	nw.	Fred E. Smith.
Walhalla	Pembina	966	8	65.7	.....	90	1	37	15	31	8.87	.....	2.25	0	16	....	....	....	w.	Ivanhoe Lee.
Westhope	Bottineau	....	6	64.4	.....	94	1	35	15†	40	3.86	.....	1.71	0	14	6	22	3	nw.	W. A. Meddaugh.
Willow City	do	1,471	19	61.8[h]	− 3.7	88[c]	26	32[i]	15	42[i]	2.49	+ 0.22	0.40	0	15	6	19	6	nw.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	21	72.0	+ 0.6	95	14	52	15†	33	8.85	+ 5.11	4.50	0	11	13	15	3	se.	Edward Carey.
Alexandria	Douglas	1,391	18	68.3	− 1.1	89	7	46	15	28	5.38	+ 2.08	2.10	0	10	13	4	14	nw.	P. O. Unumb.
Angus	Polk	870	10	65.8	+ 0.1	89	1†	33	15	35	4.70	.....	1.50	0	14	10	12	9	nw.	John Nadvornik.
Bagley	Clearwater	....	6	65.7	.....	94	7	36	19	38	2.19	.....	0.50	0	7	6	25	0	sw.	Jens Nelson.
Baudette	Beltrami	1,084	2	66.4[e]	.....	91[e]	7	40[e]	15†	32[e]	5.97	.....	1.55	0	18	1[d]	23[d]	3[d]	sw.	C. S. Dahlquist.
Beardsley	Bigstone	1,090	16	70.2	+ 0.7	92	7	40	15	37	5.99	+ 2.70	1.44	0	11	12	16	3	nw.	G. L. Fitzgerald.
Beaulieu	Mahnomen	1,200	9	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Dr. P. A. Slattery.
Bemidji	Beltrami	1,400	9	....	.....	....	....	....	....	....	4.28	.....	1.70	0	12	....	....	....	.....	C. W. Warfield.
Bird Island	Renville	1,039	22	69.8	− 1.1	92	7†	44	15	35	4.37	+ 1.23	1.04	0	12	15	7	9	nw.	Dr. F. L. Puffer.
Brainerd	Crow Wing	1,215	5	68.4	.....	89	7	43	15	30	4.06	.....	1.35	0	11	12	8	11	se.	Theodore Miller.
Caledonia	Houston	1,179	19	70.2	− 1.0	90	5†	49	16	27	5.17	+ 1.34	1.78	0	12	16	8	7	sw.	W. D. Belden.
Campbell	Wilkin	984	6	67.6	.....	91	8	40	15	43	5.65	.....	1.60	0	12	14	2	15	se.	J. T. Neiseas.
Cass Lake	Cass	1,300	5	....	.....	....	....	....	....	....	2.74	.....	0.75	0	8	....	....	....	.....	C. W. Burns.
Collegeville	Stearns	1,282	19	70.0	− 1.2	88	7	44	15	28	6.88	+ 3.62	2.24	0	12	16	4	11	s.	F. Tembreuil.
Crookston	Polk	863	23	68.2	0.0	93	7	41	15†	33	2.92	− 0.41	0.74	0	9	13	5	13	w.	A. G. Andersen.
Detroit	Becker	1,364	16	67.6	+ 0.3	90	7†	39	15	36	4.36	+ 0.18	1.40	0	12	22	3	6	sw.	G. W. Peoples.
Ely	St. Louis	....	1	67.4	.....	90	5†	42	15†	33	2.72	.....	0.83	0	13	6	21	4	s.	Iver Wisted.
Fairmont (near)	Martin	1,240	25	70.6	− 0.6	94	14	46	15	36	6.44	+ 3.07	1.60	0	12	20	4	7	s.	W. F. Wherland.
Faribault	Rice	1,003	14	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Alice Chambers.
Farmington	Dakota	902	24	70.6	− 0.1	93	23	45	15†	33	5.33	+ 1.97	1.45	0	17	13	6	12	s.	E. D. Akin.
Fergus Falls	Otter Tail	1,210	20	69.4	− 0.4	89	1	40	16	38	6.72	+ 2.93	1.70	0	16	17	10	4	se.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	67.4	.....	90	7	41	15	33	5.09	+ 2.53	1.98	0	11	14	0	17	s.	J. J. Tucker.
Fosston	Polk	1,289	2	66.9	.....	91	7	36	15	32	2.30	.....	0.56	0	11	12	16	3	nw.	O. N. Hem.
Glencoe	McLeod	1,000	15	69.6	− 0.1	91	1†	46	15†	35	4.30	+ 1.33	1.50	0	6	20	9	2	sw.	F. B. Reed.
Grand Meadow	Mower	1,338	24	69.6	− 1.8	93	5	44	16	33	6.32	+ 2.64	1.35	0	11	15	13	3	se.	C. F. Greening.
Gull Lake Dam	Cass	1,215	1	67.6	.....	88	7	45	15†	28	5.70	.....	2.55	0	15	8	19	4	nw.	U. S. Engineer Corps.
Hallock	Kittson	815	13	65.8	− 0.2	92	1	35	18	36	6.82	+ 3.91	3.00	0	14	9	5	17	nw.	D. A. Robertson.
Halstad	Norman	870	6	67.4	.....	90	7	35	15	34	2.78	.....	0.52	0	16	15	7	9	nw.	A. G. Holstrom.
Hinckley	Pine	1,050	7	67.4	.....	89	5	37	16	38	1.99	.....	0.95	0	7	9	16	6	e.	W. R. Newman.
International Falls	Koochiching	1,112	9	67.4	.....	95	7	37	15	34	3.27	.....	0.87	0	11	7	9	15	s.	C. Ardies.
Itasca State Park	Clearwater	1,500	1	66.4	.....	89	7	36	18	38	1.50	.....	0.36	0	12	13	12	6	s.	J. A. Stillwell.
Lake Crystal	Blue Earth	....	4	70.0	.....	91	14†	45	16	30	4.45	.....	1.00	0	11	20	8	3	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	24	67.0	+ 0.2	89	7	39	19	33	2.66	− 1.55	0.55	0	15	8	19	4	se.	U. S. Engineer Corps.
Littlefork	Koochiching	....	2	64.3	.....	98	5	33	18	41	3.81	.....	1.15	0	19	1	8	22	.....	O. C. Olson.
Long Prairie	Todd	1,299	20	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	A. L. Sheets.
Lynd	Lyon	1,175	19	69.6	− 0.4	93	7†	41	15†	38	2.45	− 0.56	0.68	0	9	21	6	4	nw.	J. W. Rouse.
Mankato	Blue Earth	758	14	....	.....	....	....	....	....	....	7.08	+ 3.97	2.70	0	14	15	3	13	sw.	Sadie H. Blake.
Milaca	Mille Lacs	1,072	13	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	C. H. Foss.
Milan	Chippewa	955	18	69.3	− 0.6	92[b]	7	40	15†	34[b]	3.52	+ 0.45	1.01	0	14	12	14	5	se.	O. K. Opjorden.
Minneapolis	Hennepin	918	21	71.2	− 0.7	90	7	49	15	29	7.08	+ 3.27	2.93	0	10	15	6	10	s.	U. S. Weather Bureau.
Montevideo	Chippewa	900	22	70.6	− 0.2	93	7	45	15	34	4.41	+ 1.60	0.92	0	13	11	13	7	se.	L. G. Moyer.
Moorhead	Clay	935	31	68.6	− 0.1	90	7	41	15	32	3.26	+ 0.48	1.46	0	9	22	7	2	s.	U. S. Weather Bureau.
Mora	Kanabec	....	7	68.6	.....	91	7	40	19	33	4.53	.....	2.91	0	10	11	13	7	sw.	Hans Peterson.
Morris	Stevens	1,170	27	68.6	− 1.6	88	7	43	15†	34	6.00	+ 2.14	2.11	0	11	13	14	4	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	18	70.6	− 0.1	93	23	49	15	30	5.32	+ 1.90	1.84	0	9	13	17	1	s.	Harold Swensen
New Richland	Waseca	1,180	18	71.5	− 0.4	95	23	49	15†	31	4.66	+ 1.14	1.17	0	8	16	12	3	nw.	N. O. Tyrholm.
New Ulm	Brown	791	32	71.7	− 2.3	97	23	48	15†	35	4.56	+ 0.97	1.10	0	15	5	13	13	s.	A. L. Henle.
Osakis	Douglas	1,343	4	67.8	.....	87	7	39	15	30	6.11	.....	4.00	0	9	13	7	11	nw.	J. B. Johnson.
Park Rapids	Hubbard	1,426	22	67.6	+ 0.2	90	7	40	15	33	3.71	− 0.09	0.74	0	17	10	9	12	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	25	67.2	− 1.5	88	7	38	19	32	3.88	+ 0.30	0.75	0	10	8	22	1	se.	U. S. Engineer Corps.
Pokegama Falls	Itasca	1,280	25	65.1	− 0.7	89	7	34	19	38	2.94	− 1.10	1.80	0	13	14	11	6	s.	Do.
Redlake	Beltrami	1,152	4	67.8	.....	93	7	43	18	31	2.48	.....	1.15	0	6	11	18	2	n.	A. C. Goddard.
Red Wing	Goodhue	680	16	....	.....	....	....	....	....	....	2.92	− 0.67	1.14	0	13	16	4	11	se.	Louis Bach.
Redwood Falls	Redwood	1,050	5	....	.....	....	....	....	....	....	....	.....	....	....	....	....	....	....	.....	Hockett Brothers.
Reeds Landing	Wabasha	681	16	....	.....	....	....	....	....	....	5.71	+ 2.26	3.00	0	12	16	0	15	se.	John Deschneau.
Rochester	Olmstead	991	7	71.0	.....	95	5†	45	16†	37	4.11	.....	1.20	0	11	12	9	10	s.	Mary P. Cram.

TABLE 1.—*Climatological data for July, 1912. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Continued.																				
Roseau	Roseau	1,040	3	64.8	.....	90	7	31	19	44	6.43	.....	2.15	0	13	9	20	2	sw.	M. J. Hegland.
St. Charles	Winona	850	21	70.2	− 0.3	92	23	44	16	39	6.50	+ 3.29	2.05	0	9	19	6	6	se.	S. W. Gleason.
St. Cloud	Sherburne	1,020	35	69.6	− 1.3	89	7	44	15	28	5.23	+ 1.70	2.32	0	14	12	14	5	se.	J. H. Capser.
St. Paul	Ramsay	940	41	70.5	− 1.6	89	5	49	15	28	4.02	+ 0.62	1.29	0	10	14	11	6	se.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	71.8	+ 0.4	96	23	43	16	33	3.18	− 0.54	1.25	0	7	5	21	5	n.	State Hospital.
Sandy Lake Dam	Aitkin	1,234	19	66.0	− 0.9	88	7	39	19	32	1.57	− 2.43	0.57	0	7	7	22	2	se.	U. S. Engineer Corps.
State Sanatorium	Cass		4	66.4	.....	88	7†	41	15	32	2.76	.....	1.00	0	8	6	17	8	sw.	Dr. L. B. Ohlinger.
Stillwater	Washington	694	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Oscar Ostrom.
Taylors Falls	Chisago	759	5	70.4	.....	91	5	45	19	38	3.90	.....	1.75	0	8	17	7	7	sw.	Minneapolis Gen. Elec. Co.
Thief River Falls	Pennington	1,137	1	66.6	.....	91	7.	34	15	32	5.65	.....	1.70	0	8	10	7	14	s.	E. W. Lown.
Tracy	Lyon		1	71.6	.....	95	1†	44	15	47	3.71	.....	1.35	0	7	27	0	4	se.	E. D. Davis.
Warren	Marshall	859	...	69.8	.....	95	2†	36	15	40	3.58	.....	0.93	0	9	.....	.....	.....	.....	P. H. Holm.
Warroad	Roseau	1,069	2	66.2	.....	89	4†	36	15	42	4.73	.....	1.03	0	14	10	15	6	e.	G. A. Sawyer.
Winnebago	Faribault	1,100	14	72.0	− 0.1	95	14†	48	16	37	6.28	+ 1.84	1.38	0	11	13	8	10	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	24	68.2	+ 1.0	90	8	45	18	28	3.20	− 0.79	0.80	0	11	17	11	3	nw.	U. S. Engineer Corps.
Winona	Winona	700	16	73.4	+ 0.4	97	5†	48	19	36	6.14	+ 3.34	1.72	0	13	18	8	5	nw.	P. C. Myers.
Worthington	Nobles	1,593	17	69.2	− 0.8	92	23	43	15	31	2.75	− 1.23	1.24	0	11	18	3	10	n.	M. P. Mann.
Zumbrota	Goodhue	917	16	69.4	− 1.7	92	23	43	16	32	4.75	.....	1.15	0	12	12	18	1	se.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	21	68.8	− 0.2	90	7	41	15	37	5.58	+ 2.94	1.34	0	14	14	4	13	nw.	I. T. Patridge.
Sisseton	Roberts	1,202	6	68.8	.....	88	2†	50	15†	29	8.02	.....	2.70	0	8	17	0	14	s.	George Gray.
Wisconsin.																				
Antigo	Langlade	1,489	18	67.2	− 0.4	91	6	39	19	31	8.74	.....	3.70	0	12	21	5	5	sw.	Elton C. Larzelere.
Barron	Barron	1,115	21	66.8	− 1.4	90	5	38	15	32	5.13	+ 1.25	2.10	0	9	18	10	3	sw.	Wm. A. Kent.
Beloit	Rock	750	46	71.9	− 1.0	92	5†	47	16	31	8.06	+ 4.41	3.13	0	8	6	12	13	s.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	2	65.6	.....	91	6	32	19	40	3.32	.....	1.04	0	12	8	20	3	sw.	Fred Hessen.
Brodhead	Green	812	14	73.3	+ 0.5	98	5	45	16	38	5.87	+ 1.19	2.50	0	7	16	14	1	sw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	8	69.3	.....	95	6	42	16	32	6.64	.....	2.32	0	14	6	18	7	se.	Geo. W. Smith.
Cottage Grove	Dane	888	1	.....	.....	.....	.....	.....	.....	.....	6.28	.....	2.22	0	9	16	14	1	sw.	John E. Mellish.
Darlington	Lafayette	867	6	72.3	.....	96	5†	42	16†	48	6.00	.....	3.00	0	5	25	0	6	nw.	F. J. O'Neill.
Deerskin Dam	Forest	1,685	2	64.6	.....	92	6	32	19	50	2.98	.....	1.26	0	12	10	20	1	w.	Wm. E. O'Neal.
Delavan	Walworth	920	21	71.2	− 0.7	92	6	46	16†	38	10.85	+ 6.59	3.70	0	11	8	14	9	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	12	71.7[b]	+ 0.9	95[b]	9	45[b]	19	34[b]	5.21	+ 0.75	2.60	0	5	25[b]	1[b]	3[b]	se.	Thomas Gibbon.
Downing	Dunn	983	10	66.9	− 1.0	90	5	37	16	40	4.90	+ 0.84	2.00	0	8	10	0	21	w.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	21	70.1	− 0.6	92	5	45	16	30	6.62	+ 3.15	2.58	0	12	18	10	3	s.	Robert D. Whitford.
Grand Rapids	Wood	1,021	13	69.0	− 0.3	92	5†	44	16†	34	9.21	+ 6.34	2.67	0	11	18	7	6	sw.	Willis B. Raymond.
Grantsburg	Burnett	1,095	21	69.2	+ 0.1	93	5†	38	16	39	3.95	− 0.45	2.55	0	6	15	5	11	s.	Theodore Olsen.
Hancock	Waushara	1,091	20	71.1	+ 0.2	95	6†	48	16	35	7.92	+ 3.97	2.10	0	11	13	13	5	sw.	Frederick B. Hamilton.
Hatfield	Jackson	973	18	69.2	− 1.4	98	2	43	19†	46	11.74	+ 8.18	5.40	0	7	7	19	5	se.	Walter S. Woods.
Hayward	Sawyer	1,197	21	67.4[d]	+ 0.4	90[d]	7	34[d]	19	40[d]	2.53	− 0.22	1.30	0	6	13[d]	9[d]	5[d]	sw.	Wm. E. Swain.
Hillsboro	Vernon	1,000	21	69.4	+ 0.1	94	9	39	19	39	6.81	+ 3.32	2.33	0	8	15	15	1	sw.	Emil V. Wernick.
Koepenick	Landlade	1,683	21	65.9	− 1.5	89	7	34	19	40	7.10	+ 3.26	3.20	0	14	.....	.....	.....	sw.	Edward S. Koepenick.
Lac du Flambeau	Vilas		2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Lovett.
La Crosse	La Crosse	714	40	71.4	− 1.2	94	23	48	19	33	6.41	+ 2.34	2.54	0	13	9	13	9	se.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	21	70.8	− 0.4	96	6	46	16	32	7.49	+ 3.40	3.96	0	11	10	19	2	se.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	21	71.0[a]	− 0.7	95[a]	9	43[a]	19	31[a]	6.63	+ 2.52	2.60	0	7	9[a]	17[a]	4[a]	s.	Edward Pollock.
Long Lake	Oneida	1,592	4	65.6	.....	98	6	28	19	48	3.39	.....	0.73	0	17	11	13	7	se.	Louis Frank.
Madison	Dane	974	43	70.8	− 1.6	92	6	51	16	28	5.63	+ 1.64	2.33	0	12	10	16	5	s.	U. S. Weather Bureau.
Mather	Juneau	962	8	68.4	.....	95	5	38	19	41	8.71	.....	1.87	0	11	10	8	13	w.	Frank Evans.
Mauston	do	882	16	70.1	− 0.1	92	9	44	19	31	9.49	+ 5.20	3.75	0	10	16	12	3	sw.	Eugene L. Hitchcock.
Meadow Valley	do	974	21	69.4	+ 0.1	96	5	40	19	35	8.45	+ 4.97	1.52	0	9	4	26	1	nw.	Charles H. Johnson.
Medford	Taylor	1,420	23	68.2	− 0.6	91	5†	42	19	32	7.45	+ 3.34	1.80	0	12	22	5	4	s.	Wm. Zeit.
Merrill	Lincoln	1,267	6	69.6	.....	90	5†	43	21	38	15.26	.....	11.25	0	10	13[j]	4[j]	4[j]	nw.	J. M. Wilson.
Minocqua	Oneida	1,604	8	66.9	.....	90	6	42	19	30	3.81	.....	0.95	0	15	9	20	2	s.	Benjamin W. Applebee.
Mondovi	Buffalo	738	4	70.2	.....	92	5†	44	16	33	7.08	.....	1.33	0	16	17	10	4	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	8	71.0	.....	97	9	44	16	36	5.76	.....	3.00	0	7	18	10	3	s.	W. M. Lewis.
Muscoda	Grant	666	3	72.8	.....	100	9	48	19	39	4.56	.....	1.97	0	6	25	1	5	nw.	Wm. Hessler.
Neillsville	Clark	996	22	68.8[a]	− 1.0	96[a]	5	44	19†	36[a]	7.46	+ 3.67	2.05	0	8	.....	.....	.....	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	7	69.5	.....	92	5	42	16	34	3.68	.....	0.97	0	8	12	18	1	sw.	Franc A. R. Van Meter.
Osceola	Polk	806	21	70.1	+ 1.0	92	5	42	16	34	5.38	+ 1.26	2.00	0	8	18	10	3	s.	Charles W. Staples.
Park Falls	Price	1,492	21	67.9[e]	.....	92[e]	5†	37[e]	19	39[e]	2.30	.....	0.90	0	12	6[a]	17[a]	7[a]	s.	Flambeau Paper Co.
Portage	Columbia	809	23	72.6	+ 1.2	97	6	49	16	30	6.28	+ 2.93	2.23	0	10	23	6	2	sw.	James H. Martin.
Port Edwards	Wood	969	2	71.0	.....	96	4	45	19	37	7.35	.....	1.65	0	11	19	10	2	s.	Nekoosa-Edwards Paper Co.
Prairie du Chien	Crawford	690	21	72.8	− 1.0	98	9†	45	19†	43	5.97	+ 2.34	2.20	0	9	15	1	15	s.	James A. Gillis.
Prairie du Sac	Sauk	750	4	72.2	.....	96	9†	47	16†	33	6.54	.....	2.92	0	10	11	15	5	s.	Wis. River Power Co.
Prentice	Price	1,551	14	66.2	+ 0.6	88	5†	34	19	34	7.02	+ 2.93	2.88	0	14	6	10	15	s.	Joseph G. Lash.
Rhinelander	Oneida	1,550	6	67.1	.....	93	6	36	19	37	4.09	.....	0.96	0	13	10	9	12	nw.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	6	71.0	.....	92	9	39	19	33	3.95	.....	1.34	0	9	19	8	4	nw.	Harrison B. Chamberlin.
Solon Springs	Douglas	1,083	6	67.4	.....	93	5	32	19	41	1.40	.....	0.30	0	7	16	10	5	sw.	John M. Sayles.
Spooner	Washburn	1,104	18	68.5	− 0.7	92	5	41	16	34	1.87	− 2.10	1.16	0	9	19	6	6	.....	Horace A. Bresee.
Stanley	Chippewa	1,082	8	67.7	.....	92	5	38	19	35	5.51	.....	2.06	0	10	16	7	8	se.	W. Humphrey Scott.
Stevens Point	Portage	1,113	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sugar Camp Dam	Oneida	1,582	2	.....	.....	.....	.....	.....	.....	.....	3.97	.....	1.60	0	16	11	16	4	s.	Lyman Haskins.
Trout Lake	Vilas			65.5	.....	88	5	40	19	28	2.76	.....	0.73	0	11	3	20	8	s.	F. B. Moody.
Twin Lakes Dam	do	1,625	2	.....	.....	.....	.....	.....	.....	.....	2.88	.....	0.75	0	6	10	19	2	sw.	Albert D. Hansen.
Valley Junction	Monroe	930	20	69.2	− 0.2	93	6	41	19†	35	9.54	+ 5.48	2.67	0	12	15	11	5	s.	Frederick Muermann.
Viroqua	Vernon	1,412	22	71.2	+ 0.8	93	6	46	19	31	5.31	+ 1.19	2.80	0	11	12	16	3	s.	Henry E. Rogers.
Vudesare	Vilas	1,600	4	63.8	.....	93	5†	33	19	39	4.17	.....	1.50	0	9	17	13	1	w.	Louis L. Thomas.
Watertown	Jefferson	824	21	69.2	− 1.2	92	6	46	16	31	8.33	+ 4.61	3.40	0	10	11	18	2	s.	Charles J. Salick.
Waukesha	Waukesha	864	21	70.4[a]	− 0.8	94[a]	6	45[a]	19†	32[a]	4.93	+ 1.53	2.08	0	11	14	16	1	sw.	Carroll College.
Wausau	Marathon	1,212	17	68.6	+ 0.3	90	6†	43	19	34	9.63	+ 5.44	2.50	0	12	20	8	3	s.	Geo. H. Halder.
Weyerhaeuser	Rusk	1,279	10	65.4	.....	89	5	31	16	41	4.50	.....	1.91	0	11	15	12	4	se.	Miss Etta Stiles.
Whitehall	Trempealeau	675	21	70.0	− 0.2	91	5	44	19	31	7.10	+ 3.65	1.60	0	9	.....	.....	.....	nw.	Hans J. Haugh.
Iowa.																				
Albia	Monroe	959	14	76.2	+ 2.0	101	14	50	19	39	2.70	− 1.89	0.97	0	7	26	5	0	sw.	J. I. Chenoweth.
Algona	Kossuth	1,213	38	72.6	− 0.8	95	14	45	16	34[a]	4.73	+ 1.63	1.50		8	22	4	5	se.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	21	73.0	+ 1.1	96	14†	47	16	35	4.03	− 0.65	1.02	0	12	14	15	2	s.	David E. Hadden.
Amana	Iowa	721	36	75.0	+ 1.3	98	9	45	19	39	2.26	− 1.99	1.13	0	8	18	10	3	s.	C. Schadt.
Ames	Story	926	36	75.6	+ 1.3	100	14	45	9	37[a]	3.37	− 1.07	1.56	0	11	21	6	4	s.	Iowa State College.

TABLE 1.—*Climatological data for July, 1912. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Continued.																				
Baxter	Jasper	998	12	74.2	+ 1.0	98	14†	47	19	38	4.11	− 0.93	1.04	0	14	19	11	1	sw.	W. R. Vandike.
Belle Plaine	Benton	828	22	74.3	+ 1.5	97	9	45	19	42	4.34	− 0.07	1.68	0	10	19	6	6	nw.	S. P. Van Dike.
Belmond	Wright	.....	2	73.0	.....	94	14†	47	16	34	4.81	.....	1.80	0	11	1	26	4	s.	Geo. P. Hardwick.
Bloomfield	Davis	.....	5	77.2	.....	100	23	52	19	36	3.12	.....	1.35	0	10	24	6	1	sw.	Albert Power.
Bonaparte	Van Buren	.....	21	76.0	+ 0.5	98	28	51	19	31	2.23	− 1.50	0.80	0	7	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	7	73.6	.....	97	9	49	16	32	2.36	.....	1.00	0	8	19	7	5	.....	C. F. Henning.
Britt	Hancock	1,236	15	73.7a	+ 1.9	95	4†	50	19	28	4.38	− 0.05	1.53	0	10	20	6	5	s.	L. M. Goodman.
Buckingham	Tama	.....	12	.....	.....	.....	.....	.....	.....	.....	3.70	− 0.97	1.23	0	10	21	5	5	se.	J. S. Guynn.
Burlington	Des Moines	544	16	75.9	+ 0.5	97	9†	55	16†	35	3.85	+ 0.23	1.90	0	7	21	9	1	s.	Max E. Poppe, jr.
Carroll	Carroll	1,265	22	72.2	− 0.8	98	14	43	16	41	2.60	− 1.41	0.90	0	8	23	6	2	nw.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	30	75.4	+ 0.7	100	9†	51	19	41	2.21	− 1.83	0.98	0	7	17	7	7	s.	R. S. Toogood.
Charles City	Floyd	1,015	21	72.1	− 1.4	96	9	47	19	35	3.83	+ 0.25	1.62	0	11	16	10	5	n.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	14	75.8	+ 2.6	95	14	57	11†	33	4.95	+ 0.21	1.42	0	5	23	1	7	s.	Oscar Stevens.
Clinton	Clinton	593	45	75.7	+ 1.9	97	9	53	16	36	4.18	− 0.02	1.77	0	12	19	10	2	sw.	A. E. Reed.
Columbus Junction	Louisa	595	11	76.1	+ 0.5	97	9	51	19	32	4.91	+ 0.90	2.35	0	8	21	10	0	s.	J. B. Johnson.
Davenport	Scott	580	41	76.0	+ 0.6	95	5	55	16	31	2.79	− 0.76	1.01	0	12	12	16	3	sw.	U. S. Weather Bureau.
Decorah	Winneshiek	875	19	74.1	+ 2.1	102	5	45	16†	44	4.28	+ 0.56	2.80	0	10	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	21	73.0	+ 1.1	95	9	45	19	36	1.61	− 2.54	0.83	0	6	17	11	3	se.	William Ball.
Des Moines	Polk	861	34	76.2	+ 0.7	99	14	56	19	31	3.07	− 0.79	1.41	0	10	14	13	4	s.	U. S. Weather Bureau.
Dubuque	Dubuque	639	39	73.2	− 1.5	94	9	52	19	33	4.81	+ 0.51	1.40	0	9	11	12	8	s.	Do.
Earlham	Madison	.....	10	74.4	+ 4.4	98	23	49	19	38	3.28	− 1.56	1.40	0	9	21	5	5	se.	George Phillips.
Elkader	Clayton	727	33	23.8	+ 0.2	100	4†	45	19†	40	4.79	+ 0.11	2.56	0	8	18	10	3	se.	Chas. Reinecke.
Elma	Howard	.....	2	71.4f	.....	96f	5	45f	16	31f	6.42	.....	2.90	0	14	.....	.....	.....	se.	H. A. Moore.
Estherville	Emmet	1,298	17	70.3	− 0.8	98	14	45	16	38	5.57	+ 0.99	2.70	0	13	17	12	2	s.	A. O. Peterson.
Fairfield	Jefferson	.....	28	75.4	+ 0.7	94	9†	53	19	29	3.67	− 0.32	1.72	0	9	19	8	4	s.	R. M. McKenzie.
Fayette	Fayette	1,003	22	72.4	− 0.7	98	9	43	19	40	4.27	+ 0.18	2.48	0	10	21	7	3	se.	R. Z. Latimer.
Forest City	Winnebago	1,220	18	72.3	+ 0.3	96	5†	48	16	33	5.75	+ 2.07	2.10	0	11	22	4	5	s.	J. A. Peters.
Fort Dodge	Webster	1,126	12	74.6	+ 2.1	102	9	46	16	38	4.38	+ 0.35	1.95	0	10	.....	.....	.....	s.	J. F. Monk.
Fort Madison	Lee	516	63	.....	.....	.....	.....	.....	.....	.....	2.75	− 1.21	1.50	0	5	6	20	5	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	13	.....	.....	.....	.....	.....	.....	.....	3.10	− 1.49	1.07	0	9	.....	.....	.....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	21	70.7	+ 0.2	90	9†	47	19	33	7.56	+ 2.82	2.94	0	13	15	12	4	sw.	F. L. Williams.
Grinnell	Poweshiek	1,023	20	75.8	+ 2.6	100	14	49	19	39	2.39	− 2.56	1.10	0	9	21	7	3	nw.	D. W. Brainard.
Grundy Center	Grundy	976	21	75.4	+ 3.2	99	5†	44	19	41	2.76	− 1.79	1.50	0	9	21	8	2	s.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	17	75.3	+ 1.9	97	9	48	16	38	7.56	+ 2.74	1.78	0	16	20	8	3	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	22	73.6	+ 1.2	96	14†	47	16	35	2.50	− 2.33	1.78	0	9	9	20	2	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Independence	Buchanan	921	48	73.1	+ 0.2	96	14	45	19	39	3.75	− 0.84	1.25	0	9	22	5	4	nw.	R. E. Dudley.
Indianola	Warren	969	21	76.0	+ 1.3	98	14	54	19	31	4.52	+ 0.26	1.85	0	11	11	12	8	nw.	Prof. J. L. Tilton.
Iowa City	Johnson	683	52	73.7	− 0.5	94	9†	49	17	38	3.60	− 0.88	1.24	0	10	22	4	5	nw.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	19	71.0	− 1.0	94a	14	45	16†	36a	4.62	+ 0.52	1.60	0	10	23	3	5	s.	J. B. Parmelee.
Jefferson	Greene	.....	13	75.0	.....	99	9	46	16	37	3.21	− 0.65	0.80	0	10	20	8	3	se.	Ora M. Hall.
Keokuk	Lee	547	41	77.2	+ 0.2	96	23	57	19	29	4.45	+ 0.42	2.10	0	7	12	17	2	s.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	20	76.2	+ 0.3	98	9†	51	19	37	2.14	− 1.99	1.12	0	8	5	24	2	.....	J. H. Landes.
Knoxville	Marion	920	17	76.6	+ 1.1	98	9†	53	19	31	3.86	.....	1.58	0	9	20	6	5	sw.	Casey and Bellville.
Lacona	Warren	.....	13	.....	.....	.....	.....	.....	.....	.....	2.59	− 1.89	1.72	0	11	7	20	4	.....	J. B. Alter.
Le Claire	Scott	576	12	.....	.....	.....	.....	.....	.....	.....	3.04	− 1.58	0.97	0	8	.....	.....	.....	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	20	75.5	+ 2.3	102	9	45	19	40	2.25	− 2.64	0.64	0	11	17	9	5	se.	Jacob Elge.
Mason City	Cerro Gordo	1,132	15	71.6	+ 0.1	94	9†	44	16	34	6.21	+ 2.15	2.04	0	11	20	8	3	s.	J. S. Mills.
Monroe	Jasper	.....	.....	75.8	.....	99	9	50	19	33	3.33	.....	0.99	0	6	26	5	0	s.	J. A. Dibel.
Mount Pleasant	Henry	729	31	75.3	− 0.3	94	9†	51	19	31	3.52	− 0.31	1.33	0	7	17	12	2	se.	J. W. Edwards.
Muscatine	Muscatine	.....	52	.....	.....	.....	.....	.....	.....	.....	4.80	+ 0.89	1.77	0	11	.....	.....	.....	.....	William Molis.
New Hampton	Chickasaw	1,169	15	73.0	+ 1.6	95	5	47	19	40	5.08	+ 0.89	1.72	0	12	24	3	4	s.	A. F. Kemman.
Northwood	Worth	1,122	16	71.2	0.0	92	9†	50	16†	28	6.66	+ 2.74	2.80	0	14	22	4	5	sw.	Chas. H. Dwelle.
Olin	Jones	760	14	74.2	+ 1.0	97	9	45	19	38	3.24	− 0.73	1.12	0	8	17	11	3	sw.	Dr. F. W. Port.
Osage	Mitchell	1,184	25	71.9	+ 1.4	94	9	47	16	33	7.40	+ 3.68	2.44	0	10	20	9	2	s.	Lester Coonradt.
Oskaloosa	Mahaska	843	36	75.4	+ 1.0	98	5	53	19	31	4.07	+ 0.10	1.07	0	10	23	4	4	se.	Joseph Boyd.
Ottumwa	Wapello	649	17	76.4a	+ 0.4	99	23	54	19	29	3.47	− 0.66	0.88	0	5	.....	.....	.....	nw.	Chester Potter.
Pella	Marion	877	10	75.6	− 0.4	98	14	47	19	37	3.68	− 0.68	1.67	0	10	28	1	2	nw.	J. H. Ver Steeg.
Perry	Dallas	975	11	74.6	0.0	97	9	49	16	42	5.35	+ 0.74	1.49	0	11	15	14	2	se.	S. J. Brumfield.
Plover	Pocahontas	1,426	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Smith.
Pocahontas	....do	1,248	8	71.6	.....	96	14	45	16	38	4.92	.....	1.31	0	10	21	6	4	s.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	14	72.6	− 0.8	96	14	47	16	36	5.38	+ 0.72	2.32	0	14	24	4	3	s.	Arthur Betts.
Rockwell City	Calhoun	.....	16	75.3	+ 1.9	98	14	52	19†	30	6.25	+ 2.73	1.25	0	8	25	4	2	.....	C. M. Randall.
Sac City	Sac	1,278	36	73.4a	+ 0.7	99	14	47b	16	34	2.64	− 1.39	0.90	0	9	12	15	4	sw.	E. N. Bailey.
Saint Charles	Madison	1,070	11	76.2	+ 2.1	99	14	53	19	41	3.00	− 2.79	1.49	0	11	19	11	1	sw.	R. D. Minard.
Sigourney	Keokuk	877	16	76.4a	+ 0.6	99	9	52	19	33	3.27	− 1.03	2.03	0	8	1	29	1	sw.	J. T. Parker.
Stockport	Van Buren	745	10	75.2	.....	95	9†	51	19	33	3.35	− 1.24	1.16	0	11	15	13	3	s.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	23	73.5	+ 1.6	96	14	49	15	30	3.90	− 0.40	1.71	0	12	16	12	3	s.	Prof. W. Ingold.
Tipton	Cedar	807	13	77.9	+ 3.1	98	9	56	19	33	2.41	− 1.81	1.03	0	7	17	13	1	s.	F. K. Gregg.
Toledo	Tama	856	18	73.9	+ 0.3	96	4†	44	19	37	3.39	− 0.67	0.97	0	10	25	3	3	nw.	I. F. Giger.
Wapello	Louisa	588	14	75.5	+ 0.3	95	10	56	17†	28	5.13	+ 1.91	2.44	0	5	.....	.....	.....	se.	G. M. Schofield.
Washington	Washington	769	30	75.3	− 0.2	95	9†	52	19	30	6.60	+ 2.98	3.43	0	6	11	17	3	sw.	Wm. A. Cook.
Waterloo	Black Hawk	862	29	73.2	− 0.3	97	23	47	19	36	6.23	+ 1.83	2.65	0	8	17	5	9	se.	Ralph B. Slippy.
Waukee	Dallas	1,039	9	74.6	.....	97	9†	54	16†	33	3.50	.....	1.16	0	10	24	5	2	se.	Samuel F. Foft.
Waverly	Bremer	948	16	75.1	+ 2.7	99	14	42	19	39	2.89	− 1.65	2.25	0	6	18	11	2	s.	Earl C. Moore.
Webster City	Hamilton	.....	7	74.1	.....	97	4†	45	16	37	4.97	.....	1.53	0	11	11	16	4	nw.	C. D. Carpenter.
West Bend	Palo Alto	1,197	19	72.8	+ 0.7	97	14	47	16	34	4.35	+ 0.57	2.15	0	11	20	8	3	s.	Phil Dorweiler.
Whitten	Hardin	1,036	15	73.6	+ 0.3	98	4	48	19	41	4.48	+ 0.14	1.30	0	9	9	19	3	se.	Dr. F. P. Butler.
Winterset	Madison	1,129	21	76.6	+ 2.6	99	9	54	16†	38	3.04	− 2.64	1.30	0	13	8	18	5	s.	Dr. R. S. Cooper.
Missouri.																				
Gorin	Scotland	700	27	.....	.....	.....	.....	.....	.....	.....	2.39	− 2.20	1.20	0	9	5	16	10	sw.	J. W. Pulliam.
Hannibal	Marion	534	21*	77.6	+ 0.2	96	24	59	31	29	1.36	− 2.39	0.84	0	6	15	12	4	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	35	77.7	+ 1.8	98	24	55	27†	34	2.75	− 0.78	1.05	0	6	25	6	0	se.	J. T. Farrel.
Mexico	Audrain	797	35	78.6	+ 1.7	101	24	55	19	35	1.48	− 2.57	0.99	0	8	18	2	11	s.	J. F. Llewellyn.
Palmyra	Marion	.....	1	78.5	.....	99	23†	56	19	31	0.81	.....	0.42	0	4	20	11	0	se.	W. B. Markell.
Steffenville	Lewis	576	20	80.1	+ 3.7	104	24	55	19	42	1.92	− 3.34	1.42	0	3	18	12	1	sw.	Frank Hall.
Sublett	Adair	1,000	33	74.3	− 1.5	97	24	54	16†	38	3.14	− 1.25	1.00	0	6	8	21	2	sw.	Lewis Spriggs.
Vandalia	Audrain	776	2	78.8	.....	100	24	54	19	34	0.18	.....	0.18	0	1	26a	0a	4a	sw.	C. B. Ellis.
Warrenton	Warren	865	23	78.6	+ 1.3	98	24	58	19	30	4.11	+ 0.10	1.14	0	9	15	8	8	s.	Prof. J. H. Frick.
Indiana.																				
Collegeville	Jasper	.....	13	72.8	− 1.1	93	9	51	18†	31	4.98	+ 0.65	2.04	0	9	7	15	9	sw.	Otto Miller.
Knox	Starke	716	7	72.4	.....	89	24	52	19	24	7.21	.....	3.46	0	12	15	11	5	s.	W. R. R. Tatman.
Laporte	Laporte	810	16	70.9	− 2.8	92	5	47	19†	35	3.42	+ 0.02	0.81	0	10	12	10	9	sw.	Wm. M. Walton, jr.
Plymouth	Marshall	790	9	70.7	.....	88	24	50	19	24	8.30	.....	3.19	0	10	11	17	3	sw.	J. W. Siders.
South Bend	St. Joseph	726	19	71.6	− 1.8	92	6	50	19	27	7.06	+ 3.59	2.11	0	12	7	21	3	sw.	Henry H. Swaim.

TABLE 1.—*Climatological data for July, 1912. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois.																				
Aledo	Mercer	738	12	74.4	+ 0.3	92	4†	51	19	28	4.47	+ 0.62	2.13	0	8	17	13	1	se.	William B. Frew.
Alexander	Morgan	670	19	76.3	+ 0.1	96	24	55	19†	30	2.00	− 1.71	0.95	0	8	15	10	6	sw.	George H. Hall.
Antioch	Lake	861	11	71.3	− 1.0	95	6	46	19	36	8.70	+ 4.88	5.10	0	4	12	16	3	sw.	J. C. James.
Astoria	Fulton	650	13	74.8	+ 0.9	96	28	53	19	31	1.56	− 1.84	0.35	0	8	17	12	2	sw.	Edward V. Bohl.
Aurora	Kane	678	33	72.3	− 0.8	92	5†	50	19	32	4.33	+ 0.84	1.59	0	10	7	14	10	ne.	W. Holden.
Beardstown	Cass	448									2.65	− 0.91	0.95	0	6					Mrs. L. M. Rice.
Bement	Piatt	700	5	75.0[e]		99[e]	24	55[e]	16†	32[f]	2.43		1.44	0	8	17	12	2	s.	Rev. C. S. Adams.
Bloomington	McLean	840	21	75.4	− 0.2	94	5†	53	16†	33	5.25	+ 1.42	2.34	0	8	16	8	7	s.	Prof. H. N. Pearce.
Cairo	Alexander	359	40	79.4	+ 0.8	93	24	66	27	23	1.90	− 1.55	0.83	0	8	8	11	12	s.	U. S. Weather Bureau.
Carbondale	Jackson	412	7	79.6		99	15	58	27	36	2.64		1.35	0	8	19	9	3	sw.	State Normal University.
Carlinville	Macoupin	663	22	77.7[a]	+ 1.2	100[a]	24	56[a]	19†	35[b]	2.84	− 0.99	0.85	0	7	20	9	2	nw.	Blackburn College.
Carlyle	Clinton	470	27								5.18	+ 1.33	1.55	0	8					Hervey O. Jones.
Chester	Randolph	380	20								6.53	+ 2.03	3.14	0	10					F. A. Gollon.
Clinton	Dewitt	727	2	75.0		96	24	54	27	31	5.44		1.42	0	12	16	10	5	sw.	J. F. Ziegler.
Coatsburg	Adams	763	20	78.6	+ 1.9	98	8†	54	19	38	0.83	− 3.11	0.50	0	2	21	4	6	s.	Dr. J. R. Lambert.
Cobden	Union	656	29	78.4	− 0.2	95	14†	62	27	30	3.71	− 0.57	0.92	0	6	13	7	11	s.	John Buck.
Dakota	Stephenson	929	7	71.4		93	5†	48	19	34	6.08		2.00	0	9	9	21	1	s.	Rev. G. W. Kerstetter.
Decatur	Macon	685	21	76.6	+ 0.8	98	24	52	16	34	2.67	− 0.63	0.65	0	11	18	9	4	se.	Prof. J. H. Coonradt.
Dixon	Lee	725	22	73.6	− 0.4	95	5	49	16	37	3.34	− 0.55	1.20	0	8	17	13	1		H. U. Bardwell.
Du Quoin	Perry	459	24	79.0	+ 0.7	98	15	62	27†	29	7.37	+ 3.06	3.05	0	7	15	13	3	sw.	G. H. Knetzger.
Dwight	Livingston	600	19	74.7	− 0.6	95	5†	48	19	34	2.38	− 0.85	0.85	0	10	9	10	12	ne.	Edward O. Welch.
East St. Louis	St. Clair	481	1								4.34		1.51	0	10					W. McK. Brown.
Edwardsville	Madison	554	13								8.84	+ 5.48	6.00	0	8					W. H. Morgan.
Elgin	Kane	716	5	73.6		93	5†	48	16	35	2.75		1.01	0	11	7	24	0	s.	Elgin Observatory.
Ewing	Franklin	449	1																	Ewing College.
Fairview	Fulton	733	1								4.28		2.30	0	9					Abram Wilson.
Galva	Henry	842	20	75.0	+ 0.6	96	9	50	19	36	3.16	− 0.58	1.01	0	10	18	4	9	e.	Prof. F. U. White.
Grafton	Jersey	422	19								3.17	− 0.83	0.95	0	8					R. C. Goodrich.
Greenville	Bond	635	34																	M. S. Ondyn.
Griggsville	Pike	650	27	76.8[a]	+ 0.2	96[a]	24	57[a]	19	28	2.36	− 1.05	1.53	0	4	19	12	0	sw.	George F. Kneeland.
Havana	Mason	475	20	77.6	+ 0.3	97	5†	54	19	34	1.80	− 2.25	0.42	0	9	18	9	4	s.	L. L. Eutenener.
Henry	Marshall	500	24	75.4	+ 0.9	94	5†	51	19	31	2.30	− 1.29	1.33	0	7	15	12	4	se.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	18	77.8	+ 1.2	97	6	58	19	31	3.67	− 0.23	1.35	0	5	22	3	6	w.	Ira L. Woodward.
Joliet	Will	609	21	73.8	0.0	97	6	49	19	36	1.55	− 1.86	0.85	0	6	10	13	8	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	24	72.6	− 0.6	95	5	47	16	36	5.84	+ 2.29	1.35	0	10	18	11	2	s.	George Stevens.
La Grange	Cook	657	20																	Prof. F. E. Sanford.
La Harpe	Hancock	698	33	75.7	− 0.6	97	5†	52	19	33	4.36	− 0.19	1.96	0	6	26	5	0	nw.	George E. Campbell.
Lanark	Carroll	883	23	72.8	+ 0.2	94	9	43	19	43	5.83	+ 1.64	3.09	0	11	26	2	3	se.	M. N. Wertz.
La Salle	Lasalle	536	7	74.4	− 0.9	96	5	51	19	34	2.40	− 0.87	1.08	0	9	14	9	8	sw.	U. S. Weather Bureau.
Lincoln	Logan	575	24	76.4	+ 0.5	98	24	52	19†	35	2.72	− 0.33	0.68	0	7	11	14	6	se.	Prof. C. S. Oglevee.
Loami	Sangamon	624	12								4.92	+ 1.29	1.90	0	8	11	5	15	sw.	H. C. Foster.
Manteno	Kankakee	711	1								5.98		2.20	0	12	16	11	4	sw.	J. F. Sahmeltzer.
Martinton	Iroquois	633	25	74.2	0.0	95	5	50	19	37	2.31	− 1.00	0.61	0	11	12	10	9	sw.	Joseph H. Peltier.
Mascoutah	St. Clair	425	22	80.0	+ 1.9	99	24	60	19†	34	3.60	+ 0.18	1.10	0	10	19	8	4	se.	George Henrich.
Minonk	Woodford	745	19	75.8	+ 0.9	97	5	49	19	36	2.85	− 0.19	1.93	0	9	13	15	3	s.	M. H. Pfaffle.
Monmouth	Warren	784	20	75.2	+ 0.3	95	5†	51	19	31	3.94	− 0.35	1.65	0	8	22	2	7	s.	Dr. J. C. Hutchison.
Morris	Grundy	518	1	74.2		94	9†	48	19	36	4.83		1.46	0	11	11	12	8	sw.	E. G. Cryder.
Morrison	Whiteside	685	18	73.0	− 0.3	93	5	48	19	34	4.08	− 0.69	1.35	0	11	17	11	3	sw.	S. A. Maxwell.
Morrisonville	Christian	638	13	76.5	+ 1.2	97	24	55	19	29	2.00	− 1.86	0.52	0	11	17	11	3	sw.	J. D. Lowis.
Mount Vernon	Jefferson	511	18	77.4	− 0.4	95	15	61	27	28	5.98	+ 1.83	2.00	0	8	12	9	10	s.	Theo. P. Stelle.
Nashville	Washington	503	12								4.73	+ 0.12	2.05	0	8					H. M. Potter.
Oregon	Ogle	702	3	72.9		95	5	44	16	37	4.39		1.27	0	6	11	6	14	sw.	Samuel Ray.
Ottawa	Lasalle	500	26	75.4	+ 0.2	99	5	50	19	35	3.28	− 0.47	1.13	0	10	12	3	16	sw.	Miss Maude M. Harris.
Pana	Christian	692	26								3.69	− 0.21	1.23	0	7					A. H. Owens.
Peoria	Peoria	609	56	74.8	− 0.6	96	9	54	16	29	5.04	+ 2.07	2.67	0	11	7	21	3	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	10	75.7	+ 0.6	98	5	52	19	32	2.95	− 0.34	1.15	0	11	9	10	12	s.	George Butterworth.
Quincy	Adams	481	6	80.0		99	23†	60	19	29	0.69		0.32	0	5					Fred J. Brinkoetter.
Riley	McHenry	956	53	71.2	− 0.5	90	6	48	16	29	5.59	+ 2.11	1.06	0	11	4	21	6	sw.	John West James.
Roberts	Ford	774	1								5.09		2.91	0	8	13	13	5	s.	R. E. Bradbury.
Rockford	Winnebago	763	20	71.6	− 2.2	94	5	48	16	31	8.21	+ 4.54	2.97	0	11	23	0	8		Hosmer C. Porter.
Rushville	Schuyler	670	21	76.8	+ 1.1	96	23	57	16†	31	1.51	− 2.36	0.57	0	4	21	8	2	sw.	H. F. Dyson.
St. Charles	Kane	700	17																	Dr. William Bishop.
St. Peter	Fayette	500	10	77.4	− 0.2	95	13†	58	19	28	8.76	+ 4.48	1.95	0	14	6	22	3	se.	M. L. Lansford.
Sparta	Randolph	538	26	79.0	+ 1.7	98	15	61	19	30	3.41	− 0.03	1.01	0	8	20	11	0	se.	James A. Caldwell.
Springfield	Sangamon	644	32	77.2	+ 0.7	97	24	57	19	30	4.47	+ 1.57	2.97	0	7	9	17	5	s.	U. S. Weather Bureau.
Streator	Lasalle	626	19	75.1	+ 0.2	97	5	50	19	34	3.08	− 0.68	1.13	0	15	20	4	7	sw.	Miss Lora Sweetser.
Sullivan	Moultrie	530	12	77.2	+ 1.3	98	24†	56	19†	33	2.34	− 0.41	0.65	0	8	12	15	4	sw.	C. A. Corbin.
Sycamore	Dekalb	855	32	72.2	+ 0.1	95	5	45	16†	40	4.01	+ 0.35	1.44	0	8	12	6	13	nw.	Miss Edna J. Davis.
Tiskilwa	Bureau	798	28								1.13	− 2.88	0.75	0	6					F. I. Smucker.
Walnut	....do	717	21	75.0	− 0.5	96	5	51	16	32	2.43	− 1.48	1.10	0	8	15	15	1	s.	O. C. Nussle.
Warsaw	Hancock	501	14								4.18	− 0.64	2.22	0	5					W. R. Kirkbride.
Waterloo	Monroe	719	1								1.74		0.35	0	10					Prof. J. E. Raibourne.
White Hall	Greene	573	4	77.2[a]		97[a]	24	55[a]	31	32[b]	1.48		0.44	0	6	21	8	2	nw.	Frank Dillman.
Windsor	Shelby	681	13	77.5	+ 1.9	96	24	58[a]	19	31[a]	6.98	+ 2.72	1.92	0	9	11	10	10	s.	Herbert Rose.
Winnebago	Winnebago	900	25	72.5	− 0.4	98	5	45[a]	16	40[a]	6.81	+ 3.01	3.22	0	11	21	8	2	s.	Frank Osborn.
Yorkville	Kendall	584	25	73.1	+ 0.2	96	5	47	19	37	4.95	+ 1.44	1.41	0	11	16	13	2	w.	Herman A. Grimwood.
Zion	Carroll	938	18			94	4†				2.72	− 1.09	2.00	0	3	22	5	4	nw.	Robert F. Gillogly.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
[e] Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 5.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																															
Amenia	Red	....	.36	T.	T.	T.	....	....	1.60	.18	....	T.	.08	....	....	....	....	....	....	....	.04	....	T.	.80	....	....	....	....	....	....	....	T.	3.06
Bottineau	Mouse	....	....	....	....	.04	.04	T.	.34	.07	T.	.24	.08	T.	T.	.10	.07	.03	....	....	.09	.10	....	.52	....	....	.02	.12	....	.02	....	.20	2.08
Bowbells	....do	....	....	....	....	.05	.80	.03	.22	.45	....	.16	.10	....	.13	....	.15	.10	....	....	.15	....	....	.35	....	....	.10	....	....	....	....	....	2.79
Cando	Sheyenne	....	....	....	....	.41	....	....	....	....	....	.33	.19	....	....	....	....	....	....	T.	....	.34	.32	1.00	....	....	T.	.22	....	.16	.53	....	3.50
Crosby	Mouse	.07	....	....	.62	.22	....	.24	.23	T.	....	T.	T.	....	.39	....	.30	....	....	....	.90	....	....	.38	....	T.	....	....	....	....	....	....	3.35
Devils Lake	Sheyenne	....	1.03	....	T.	.62	2.11	T.	.21	....	....	.50	.04	T.	.05	....	....	....	....	T.	T.	.21	.01	.89	....	.18	.05	1.43	....	....	.11	....	7.44
Donnybrook	Mouse	....	....	....	....	1.04	.14	.21	.10	....	.05	.27	.03	....	.07	....	T.	....	.04	....	.05	T.	T.	1.75	.05	T.	....	T.	.06	....	....	....	3.86
Dunseith	....do	.12	....	....	.03	.12	....	.10	.12	....	....	.25	.05	....	.04	....	.10	....	....	T.	....	.46	.01	.42	....	....	.44	.40	....	....	.14	....	2.80
Edmore	Sheyenne	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Fessenden	James	T.	T.	1.11	....	.18	.17	.32	.04	T.	....	.42	....	....	....	....	....	T.	....	.11	....	.02	.05	.19	.25	T.	....	.32	....	....	....	....	3.18
Forman	Sheyenne	....	.45	....	1.30	.27	....	....	.33	....	....	.15	.50	....	....	....	T.	....	....	.25	....	....	....	1.55	....	....	....	....	....	....	....	.01	4.81
Grafton	Red	....	....	....	....	....	T.	.09	.03	.15	....	.38	.03	.07	.04	.23	....	....	.03	....	.02	....	.53	.11	....	....	....	.40	.41	....	....	.11	2.63
Granville	Mouse	....	....	....	.08	.06	....	.19	.56	....	....	.54	....	....	T.	....	....	....	.14	T.	.06	.20	1.21	....	T.	....	....	.43	....	....	....	....	3.47
Hannah	Pembina	....	.21	....	....	.36	.34	....	.20	....	....	.75	....	.11	....	.09	....	....	....	....	.81	....	....	.23	....	....	2.52	2.06	....	....	....	....	7.68
Hansboro	Red	....	....	....	....	.38	....	....	....	....	....	.13	.01	....	.05	....	.05	....	....	.10	....	.60	....	.38	....	.05	*	.85	....	....	.03	....	2.63
Hillsboro	....do	....	.48	....	T.	.08	....	.40	....	.70	....	.06	.10	....	T.	....	....	....	.07	.02	T.	....	.17	.18	.13	....	....	....	.69	....	....	.02	3.10
Lakota	Sheyenne	....	1.15	.16	....	.14	T.	.20	T.	....	....	.44	.05	T.	....	....	....	....	....	T.	....	.10	.25	.85	....	....	T.	.44	....	....	.15	....	3.93
Langdon	Pembina	....	.05	.95	....	.35	.37	....	....	.23	....	.12	T.	.12	.11	.07	T.	....	....	....	....	1.02	.21	.23	....	....	.03	1.19	.20	....	....	....	5.25
Larimore	Red	....	....	.50	....	....	.05	....	.27	2.65	....	.41	.12	....	....	.15	....	....	....	....	.01	....	.29	.12	.02	....	....	....	.05	....	....	.10	4.74
Lisbon	Sheyenne	....	.04	.67	.22	.18	....	....	.21	.20	....	.15	.78	....	....	....	....	.07	....	T.	.10	....	.03	1.40	.63	....	....	....	T.	....	.20	4.88
McKinney	Mouse	....	....	....	T.	1.30	....	.72	.13	.18	....	.30	T.	....	.20	....	.06	....	.14	.18	....	....	....	1.70	....	.09	T.	T.	T.	....	....	....	5.00
McLeod	Sheyenne	....	1.00	....	.30	.30	....	....	....	....	.30	....	.47	....	.15	....	T.	....	.10	....	....	T.	.45	....	....	....	....	....	....	....	....	T.	3.07
Manfred	....do	....	.15	....	.09	.83	.12	.02	.06	....	....	.30	....	....	T.	....	....	....	.13	....	.03	.13	.39	....	....	....	.24	....	....	....	....	.02	2.49
Mayville	Red	....	.87	....	T.	.76	....	.43	....	1.93	....	.02	.10	....	....	....	....	.01	T.	.15	....	.06	.06	....	....	....	....	....	1.36	T.	....	....	5.75
Minot	Mouse	....	....	....	.12	....	.12	.40	....	....	....	.45	.08	....	.11	....	....	....	....	....	.16	.23	.73	....	T.	....	.89	....	....	....	....	....	3.29
Minto	Red	....	.38	....	....	T.	....	.36	.19	.74	....	....	....	....	....	....	....	....	....	....	1.51	.63	.05	....	....	....	.20	.01	....	.21	....	....	4.28
Oriska	Sheyenne	....	.48	....	.13	....	....	....	.30	....	....	.10	.25	....	....	....	T.	....	....	T.	.02	....	.98	.63	....	....	....	....	....	....	....	.11	3.00
Park River	Red	....	.21	.30	....	.30	....	.07	....	.10	....	.43	....	....	.17	....	....	....	....	....	....	1.45	.12	.32	....	....	T.	.43	.01	....	....	....	3.91
Pembina	....do	.10	....	.08	....	.04	T.	.48	T.	1.10	....	.10	.10	....	.20	.10	....	....	....	....	....	.18	....	.10	.20	....	....	.62	.80	....	....	.04	4.24
Power	Sheyenne	....	.65	....	.40	....	....	....	.05	....	.05	.45	.05	....	T.	....	.02	....	.12	....	....	.03	T.	....	....	....	....	.13	....	....	T.	....	1.95
Pratt	Mouse	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Towner	....do	T.	....	....	.08	.07	....	.04	.35	.02	....	.12	T.	....	.07	....	....	....	.11	....	.07	.18	1.55	....	....	....	.02	.66	....	....	....	....	3.34
University	Red	....	.40	....	....	.92	.16	.17	.20	.86	....	.20	.25	T.	.06	....	.03	.02	....	T.	.01	.14	.75	T.	T.	....	....	.21	....	....	.31	4.69
Wahpeton	....do	....	.02	.21	.52	.04	....	.03	.80	....	....	.40	.06	....	.26	....	....	....	.14	.04	....	.52	....	....	....	....	....	....	....	....	....	....	3.04
Walhalla	Pembina	T.	T.	.53	....	.83	....	T.	.07	.10	T.	.03	1.86	....	.58	....	.02	.05	.05	....	....	.21	.01	.22	....	.04	2.25	....	2.02	....	....	....	8.87
Westhope	Mouse	....	....	....	....	.40	....	.34	.29	....	....	.28	....	....	.15	....	.15	....	.15	.12	.05	.04	1.71	....	....	....	.06	....	.11	....	....	.01	3.86
Willow City	....do	....	....	....	T.	T.	....	.36	.25	....	....	.27	.05	....	.05	T.	.08	....	.05	....	.05	.09	.40	....	.13	.37	.25	....	.02	.07	....	....	2.49
Minnesota.																															
Albert Lea	Mississippi	....	.30	1.00	....	....	.05	....	....	4.50	....	....	.90	....	.05	....	.70	.05	....	.50	.55	....	....	....	....	....	.25	....	....	....	....	....	8.85
Alexandria ‖	....do	....	....	.05	.30	.04	....	....	....	.70	T.	....	.92	T.	.03	.07	....	T.	....	....	.09	....	.18	2.10	....	....	....	....	....	....	....	....	5.38
Angus	Red	.04	.13	....	....	.51	....	.31	....	.98	....	.31	....	....	.06	....	.05	....	T.	.03	.05	.62	1.50	....	....	....	....	....	.04	....	....	.07	4.70
Bagley	....do	....	....	....	....	....	....	T.	....	.50	....	.50	.50	....	.13	....	....	....	....	T.	....	.30	.20	....	....	....	....	....	.06	....	....	....	2.19
Baudette	Rainy	.05	.15	.05	T.	....	.65	.31	....	....	.54	.22	....	.54	.02	.02	.09	....	....	.01	....	.62	....	....	....	....	....	1.00	1.55	.08	.01	.06	5.97
Beardsley	Minnesota	....	.62	....	.36	1.10	....	....	.07	.30	....	....	1.14	....	.16	....	T.	....	....	.27	....	....	.50	1.44	....	....	....	....	....	....	....	.03	5.99
Beaulieu ‖	Red	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bemidji ‖	Mississippi	.50	.07	....	....	.27	....	....	....	1.70	....	....	.28	.53	....	.05	....	....	....	....	.03	.16	.20	....	....	....	....	.46	....	.03	....	....	4.28
Bird Island	Minnesota	.38	.25	1.04	1.00	T.	....	....	....	.01	....	....	.22	....	T.	....	....	.15	....	.24	.06	....	.33	.67	....	....	.02	....	T.	....	....	....	4.37
Brainerd	Mississippi	....	.64	....	.14	1.35	....	.03	....	.83	....	.05	.15	....	T.	....	....	....	....	....	.04	....	.17	.40	....	....	....	....	.26	T.	....	....	4.06
Caledonia ‖	....do	.15	....	....	.16	....	....	.08	....	.03	1.78	....	....	.50	....	.11	....	....	.03	....	.78	.97	....	.36	....	....	....	.22	....	....	....	....	5.17
Campbell ‖	Red	....	....	.10	.36	.85	T.	....	.25	.70	....	....	1.10	.08	.05	.02	....	....	....	....	.27	....	....	1.00	....	....	....	.27	....	....	....	....	5.65
Cass Lake ‖	Mississippi	....	....	.05	....	.25	....	....	T.	.75	....	....	.35	.72	....	.10	....	T.	....	....	....	.05	....	....	....	....	....	.47	....	....	....	....	2.74
Collegeville	....do	....	.32	.21	.32	1.12	....	....	....	1.18	....	T.	.91	....	.08	....	.27	....	.03	.03	....	.17	2.24	....	....	....	....	....	....	....	....	....	6.88
Crookston ‖	Red	....	....	.31	....	....	.22	....	.13	.74	....	.12	....	.60	....	T.	....	....	....	....	T.	.28	.22	....	T.	....	....	....	....	....	....	.30	2.92
Detroit ‖	....do	....	....	T.	T.	.65	T.	T.	T.	1.40	....	10	1.30	T.	.12	.15	....	.06	T.	T.	.08	T.	.15	.15	....	....	....	....	.05	....	....	.15	4.36
Ely	Rainy	....	....	.83	....	....	....	....	....	.11	....	.32	.20	.18	.06	.13	....	....	....	....	....	....	.18	.03	....	....	....	.04	.44	....	.17	.03	2.72
Fairmont (near)	Minnesota	1.60	....	1.25	....	....	....	....	.45	.07	.26	....	.09	....	....	.13	....	.25	.15	1.26	.36	....	....	....	....	....	....	.57	....	....	....	....	6.44
Faribault	Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Farmington	....do	.30	.42	.10	.53	....	.36	....	.74	.26	....	.65	.15	.02	.05	....	.04	....	.09	.07	....	.05	1.45	....	....	....	.05	....	....	....	....	....	5.33
Fergus Falls	Red	....	.05	.01	.41	.84	....	.12	....	1.70	....	.10	.32	.31	1.22	....	.01	....	.05	.02	....	11	1.10	....	....	....	....	.35	....	....	....	....	6.72
Fort Ripley ‖	Mississippi	....	....	.35	.30	1.98	.36	....	.15	.77	....	....	.30	T.	....	.04	....	....	....	....	....	.21	.46	.17	....	....	....	....	....	....	....	....	5.09
Fosston	Red	....	....	....	....	.56	....	....	.07	.15	....	.30	.50	.07	.02	....	....	....	....	T.	....	.35	.15	.10	....	....	....	....	....	....	....	.03	2.30
Glencoe	Mississippi	....	....	....	1.50	....	....	....	.25	....	....	1.00	....	....	....	....	....	....	....	.40	....	....	15	1.00	....	....	....	....	....	....	....	....	4.30
Grand Meadow	....do	.16	T.	.50	....	....	.03	....	T.	1.35	.89	....	.88	....	T.	.24	....	....	....	.29	1.32	....	....	T.	....	....	....	.34	....	....	.32	....	6.32
Gull Lake Dam	....do	....	.42	.10	.44	.74	.56	....	.04	2.55	.02	....	.19	....	.02	....	T.	T.	....	T.	.03	....	.20	.32	....	....	....	....	....	....	.04	.03	5.70
Hallock	Red	....	.57	....	....	.03	....	.35	.33	....	....	.30	.12	....	.45	....	T.	....	....	....	....	.13	.02	.12	....	....	3.00	1.25	....	....	.10	.05	6.82
Halstad ‖	....do	....	.24	.06	.04	....	....	....	.44	.46	....	.07	.10	.24	....	....	....	.01	....	.02	.03	.19	.05	.15	....	....	....	.52	....	....	.16	2.78
Hinckley	St. Croix	....	T.	.05	.13	.26	....	....	....	.37	....	....	.15	....	....	....	....	....	....	.08	....	T.	.95	....	....	....	....	....	....	....	....	....	1.99
International Falls	Rainy	....	.25	T.	....	....	.15	....	.46	T.	....	.16	.21	....	.28	....	T.	....	....	T.	.13	.48	....	....	....	....	.20	.87	T.	.08	....	....	3.27
Itasca State Park	Mississippi	....	....	.06	....	.30	....	.02	....	....	....	....	.09	....	.36	....	.02	....	.09	....	.01	.28	....	....	....	....	....	.23	.02	....	.02	....	1.50
Lake Crystal	Minnesota	.60	.44	.46	1.00	....	....	....	.10	.25	....	....	.61	....	.10	....	....	....	.60	.19	.02	....	....	....	....	....	.10	....	....	....	....	....	4.45
Leech Lake Dam	Mississippi	....	.03	.07	....	.20	.26	....	.14	.55	....	.02	.41	.02	.35	....	.03	....	.03	....	.02	.11	....	....	....	....	....	.42	....	....	....	....	2.66
Littlefork	Rainy	.01	.21	.05	....	....	.15	....	1.15	.05	....	.15	.71	.11	....	.01	.10	.05	....	....	.05	.21	.05	.06	....	....	....	.04	.60	.05	....	....	3.81
Long Prairie	Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Lynd	Minnesota	T.	.20	.39	....	.21	....	....	.20	.20	....	....	T.	....	T.	....	.20	....	.68	T.	....	.15	.22	....	....	....	T.	....	....	....	....	....	2.45
Mankato ‖	....do	.17	.50	.71	1.60	....	....	....	....	....	.30	....	2.70	.09	....	.12	....	....	.10	....	.55	.04	....	.05	.11	....	....	.04	....	....	....	....	7.08
Milaca	Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Milan	Minnesota	....	.19	.03	.37	.29	....	....	.02	....	....	....	.32	....	.05	....	....	.13	....	.39	.02	.27	.40	1.01	....	....	....	.03	....	....	....	....	3.52
Minneapolis	Mississippi	T.	.86	....	.64	.04	....	....	.06	.28	....	....	2.93	....	T.	....	....	.03	....	T.	.08	....	09	2.07	....	....	....	....	....	....	T.	....	7.08
Montevideo ‖	Minnesota	....	....	.52	.81	.01	T.	....	.10	.08	....	....	.73	.25	....	.05	....	.15	....	T.	.31	....	.38	.92	.10	....	....	T.	....	....	....	....	4.41
Moorhead	Red	....	1.46	....	.03	.10	....	....	....	.10	....	1.15	.01	....	....	T.	....	....	....	.02	....	....	.36	.03	....	....	....	....	....	....	....	....	....	3.26
Mora	St. Croix	....	....	.02	.40	.71	....	....	....	....	.07	.02	.24	....	....	....	.03	....	....	....	.03	....	.10	2.91	....	....	....	....	....	....	....	....	....	4.53
Morris	Minnesota	T.	.46	....	1.05	1.06	....	....	T.	.55	....	....	.74	....	.11	....	T.	.35	....	.15	T.	T.	27	1.25	....	....	....	....	.01	T.	....	T.	6.00
New London	Mississippi	T.	.15	.07	.36	1.84	....	....	....	....	....	....	.70	....	....	....	....	....	....	.45	.05	....	10	1.60	....	....	....	....	....	....	....	....	....	5.32
New Richland	Minnesota	T.	T.	....	T.	....	.35	....	....	1.17	.49	....	1.16	....	T.	....	....	.14	....	.52	.62	....	....	T.	....	....	.21	....	....	....	....	....	4.66
New Ulm ‖	....do	.52	.09	.98	.65	....	....	.05	.10	.03	....	....	1.10	....	....	.02	....	.06	.10	....	.54	.06	....	.16	....	....	....	....	.10	....	T.	....	4.56
Osakis	Mississippi	....	T.	....	.29	.78	....	....	....	.39	....	.15	.36	....	.08	....	....	....	....	.05	.01	....	T.	4.00	....	....	....	....	T.	....	....	....	....	6.11
Park Rapids ‖	....do	....	.05	.14	....	.70	.01	....	.25	.74	.03	....	.04	.70	.05	.05	....	.03	....	....	.06	....	.27	.11	....	....	....	.42	....	....	....	.06	3.71
Pine River Dam	....do	....	T.	.15	.10	.50	.60	....	.70	.75	....	....	.30	....	T.	....	T.	....	....	.10	....	.55	....	....	....	....	....	.13	....	....	....	....	3.88
Pokegama Falls	....do	....	.02	.05	....	.26	.03	....	.02	.39	....	....	1.80	.04	.04	....	.01	....	....	T.	.04	.05	....	....	....	....	....	.19	....	....	....	....	2.94
Red Lake	Red	....	....	....	....	....	.15	....	....	....	....	....	1.15	....	.50	....	T.	T.	....	....	.15	.15	....	....	....	....	....	.38	....	....	....	....	2.48
Red Wing ‖	Mississippi	.14	.08	.08	....	1.14	....	....	....	....	.18	....	T.	.44	....	.06	....	....	.02	....	.10	.02	....	.50	.14	....	....	.02	....	T.	....	....	2.92
Redwood Falls	Minnesota	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Reeds Landing ‖	Mississippi	.45	....	.16	....	.40	....	.12	....	....	.21	....	....	3.00	....	.28	....	....	....	.53	.10	....	.14	.28	....	....	....	....	....	.04	....	....	5.71
Rochester ‖	....do	.24	.12	....	....	.25	....	....	....	.98	....	....	.26	.24	....	.34	....	....	.15	....	1.20	.25	....	....	....	....	....	.08	....	....	....	....	4.11
Roseau	Red	....	....	.03	.19	.47	....	.30	....	1.38	....	.19	.04	....	.52	....	....	....	....	.30	....	.19	.04	....	....	....	2.15	.63	....	....	....	....	6.43
St. Charles	Mississippi	1.24	....	.20	.13	....	.08	....	....	.15	1.90	....	.19	....	....	.56	....	T.	....	....	2.05	....	....	....	T.	....	....	....	....	....	....	....	....	6.50
St. Cloud	....do	....	.36	.21	.47	.31	....	....	....	.07	.01	....	.88	....	T.	.04	....	.38	....	.01	.02	.02	.13	2.32	T.	....	....	....	....	....	....	....	5.23
St. Paul	....do	.01	.55	....	.60	.25	....	....	T.	.28	....	....	.88	....	T.	....	....	.04	....	T.	.08	....	.05	1.28	....	....	....	....	....	T.	....	....	4.02
St. Peter	Minnesota	.10	1.25	.53	.47	....	....	....	....	.10	....	....	.43	....	....	....	....	....	....	.30	....	....	....	....	....	....	....	....	....	....	....	....	3.18
Sandy Lake Dam	Mississippi	....	....	....	....	.20	.18	....	....	.57	....	....	.07	....	.02	....	....	....	....	....	T.	....	....	.42	....	....	....	.11	....	....	....	....	1.57

TABLE 2.—*Daily precipitation for July, 1912. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Con.																																	
State Sanatorium	Mississippi			.04		.35	.15		.08	1.00			.82		.01					T.			T.					.31	T.			2.76
Stillwater ‖	St. Croix																																
Taylors Falls	do	T.		.30	.68					.12			.37	.10									.10	1.75					T.	.48		3.90
Thief River Falls ‖	Red	1.70				.85		.46				.40								.30	.40	.60					.94			T.		5.65
Tracy	Minnesota	.25	.95		1.35					.45										*	.61		.10									3.71
Warren	Red						.93		.48	.25	.78	.56	.25		.01							T.	.09					.23				3.58
Warroad	Rainy		.25		T.			.27	.12	.58		.02			.59		.08		.03		.15	.35	.15	.10		1.03		1.01		T.			4.73
Winnebago ‖	Minnesota		.64	1.37	T.	T.	T.		.18	.40	1.35		T.	.14		.10			.40		1.38	.10			T.				.22		T.		6.28
Winnibigoshish	Mississippi	T.		.20			.46		.18		.80		.02	.78		.15		.06					.22	.08							.25		T.	3.20
Winona	do	.37		.17	.37		.91			.26	1.06		.05	.61		.22		.06		T.	1.72			.13	.21			T.			T.	T.	6.14
Worthington ‖	Des Moines		.03	.03	.14				.61	.02	.03					.02			.35		1.24	.03							.25				2.75
Zumbrota	Mississippi	.60		.31	1.15					.05	.45		.12	1.00		.27		T.		.04	.52		T.	.12							.12		4.75
South Dakota.																																	
Milbank	Minnesota			T.	.78	1.34			.25	.02			1.03		.35	.04		.09	.02	.06	.36		.40	.80				.04					5.58
Sisseton	do		.75				1.50			.65		2.00				.25					.02		.15	2.70								8.02
Wisconsin.																																	
Antigo	Wisconsin			.09	.31			.14	.18	T.	.61			.28		.37					T.		T.	3.70	2.33			.28		.42	.03	8.74
Barron	Chippewa			.18	.85		.08			.44	.83		.45		.10						T.		.10	2.10						T.	T.	5.13
Beloit	Rock				.22			.80			.47			1.49					.T.	T.	3.13	1.08		T.					.66		T.	.21	8.06
Big St. Germain Dam.	Wisconsin			.24	T.	T.	.16	.05	.47	.14	.17			.10		.03		.11					T.	1.04	T.				.67	.14		T.	3.32
Brodhead	Rock							.50			.31			.73						T.	2.50			.23				1.25			.35	5.87
Burnett	do		T.	.14	.05			2.32	T.		.72			.70		.03			.05		1.66	.02		.61	T.			.05	.07	.20	.02	6.64
Cottage Grove	do	T.	T.	.01	.47			.46			.57			2.22					.01	T.	2.23							.09			.22	6.28
Darlington	do			*							1.00			.80							3.00							1.20				6.00
Deerskin Dam	Wisconsin			.19			.61		.34	T.	.39			.39		.09		.05					T.	.42				1.26	.19	.02	.03	3.98
Delavan	Rock				1.07			2.68			.04			3.70					.02		2.62			.14				.34	.03	.08	.13	10.85
Dodgeville	do			.20			T.				1.00			.40							2.60	T.						1.01			T.	5.21
Downing	Chippewa	T.		.22	.40					.40	.20		1.10			T.		T.			.30		T.	2.00					T.	.28		4.90
Eau Claire	do	.06		.42	1.40		.55			.23			2.58	.05	.34	.05		.02			.18			.74								6.62
Grand Rapids ‖	Wisconsin	.25			1.69	1.07		T.			.73			2.67		.68						.84			1.00			.01		.12	.15	9.21
Grantsburg	St. Croix	T.			.30	.25				.35			.25								T.		T.	2.55					.25			3.95
Hancock	Wisconsin			.18	1.25						.70			.52		.75					.95			2.10	.60			.12	T.	.45	.30	7.92
Hatfield	Black				3.50					.23				5.40						*	1.01			1.51							.09	11.74
Hayward	St. Croix			.13						.45	.25													1.30				.18			.22	2.53
Hillsboro	Wisconsin			.06	.60					T.	1.75			1.25	.20						2.33			.15			T.			T.	.47	6.81
Koepenick	do			.80	.40	.20			.20	.30	.40			.20		.30		.10						3.20					.50	.20	.20	.10	7.10
Lac du Flambeau	Chippewa																																
La Crosse	Mississippi	T.		T.	.61		.02			2.44	.15		.19	.01	.08	.01		.02		T.	2.38			.34	.08			.08			T.	T.	6.41
Lake Mills	Rock				.13		.22	.42			.44			3.96					.02	T.	1.91		.02					T.	.08	.12		.17	7.49
Lancaster	Mississippi			.35			T.				1.30			.58						.08	2.60							T.	1.68		.04		6.63
Long Lake	Wisconsin			.19		.05	.38	.07	.07	.06	.38		.01	.09		.05		.14						.58	.03				.73	.15	.36	.05	3.39
Madison	Rock	.03	T.	T.	.12		.37		T.		.70		T.	1.40					.01	T.	2.33			T.	.02			.01	.16		.02	.26	5.63
Mather ‖	Wisconsin				.02	.90		.67			1.69			1.46		.12					.49	1.14		T.	1.87				.04			.31	8.71
Mauston	do			.15	.68						1.10			2.65		.14					3.75			.35	.05				.12			.50	9.49
Meadow Valley	do			T.	.85		.35			1.52	1.10			1.17		.18					1.15			1.52								.61	8.45
Medford	Black	.65			1.25		.10			.30	.65			1.05		.50					.10			1.80	.85						.10	.10	17.45
Merrill	Wisconsin				.95		.13			.60				.90		.80								5.90	5.35			.31		.13	.19	5.26
Minocqua	do			.33	.54		.28	.02	.10	.33	.16			.10		.03		.09					T.	.95	.20			.45	.03	.20		3.81
Mondovi	Mississippi	.07		.46	1.19		.69			.39	.20		.85	1.33	.13	.32	.01				.33		.01	1.00	.01			T.		.09		7.08
Mount Horeb	Rock	T.	T.	.02	.31						.81			.48					T.		3.00			T.				T.	.70		T.	.44	5.76
Muscoda ‖	Wisconsin				T.						.87			.46		.07			T.		1.03	1.97	T.						.16				4.56
Neillsville	Black				1.43					.90	1.15			1.18		.70					.45			1.38								.27	7.46
New Richmond	St. Croix			.53	.81		.97			.55		.28			.22															.15	.17		3.68
Osceola	do	T.	.40		1.18				.07				.60						.08		.05		T.	2.00						1.00			5.38
Park Falls	Chippewa	.19		.18	.03		T.			.29	.15	T.	T.	.03	T.			T.			.08	T.	T.	.90	.11				.25	.02	.07		2.30
Portage	Wisconsin				.18			.25			1.24			1.89		.05			T.		2.23	T.		.17				T.	.06	.05		.16	6.28
Port Edwards	do	.30		.15	1.15			.15			1.30			1.65		.64					.62			1.25	.11						.03		7.35
Prairie du Chien ‖	Mississippi	.24			.28			T.			.54			1.15		.20					.62	2.20							.64		.10		5.97
Prairie du Sac	Wisconsin				.52			.79			.60			.78		.03			T.		2.92	.05		.30				T.	.19			.27	6.54
Prentice	Chippewa			.38	.12	.06	.08		T.	.14	.28			.14		.33		.15			.04		T.	2.88	2.21						.17	.04	7.02
Rhinelander	Wisconsin			.02	T.			.41	.20	.08	.66			.24		.75		.07						.96	.20			.23			.25	.03	4.09
Shullsburg	Mississippi			.05				.17			.83			.02							1.34	.30						.94			.08	.22	3.95
Solon Springs	St. Croix			.30	T.	.20				.10	T.			.20							T.			.30				T.			.10	.20	1.40
Spooner	do	T.		.08	.08					.15	.17		.08		T.			.03		T.			.10	1.16								.03	1.87
Stanley	Chippewa			.52	.74		.07			.16	.68		T.	.78		.27		T.			.07		T.	2.06								.16	5.51
Stevens Point	Wisconsin																																
Sugar Camp Dam	do			T.	.30	.11	.50	.03	.20	.06	.40			.10	.03			.10						1.00	.28			.31	.40	.05	.10	3.97
Trout Lake	do		T.	.23			.27	.11	.15	.08				.30		.15		.10			T.		T.	.54	T.			.73		.10		2.76
Twin Lakes Dam	do			T.		.20	.82		T.					.20										.37				.75			.54	2.88
Valley Junction	do			.24	.37		.87	.13		.46	1.49			1.81		.11					2.67			.77	.34			T.				.28	9.54
Viroqua	Mississippi	T.			.30		.24		T.	.26	.60			.21		.09		T.		T.	2.80			.51				.04	.22		.04		5.31
Vudesare	Wisconsin					.29	.30			T.		T.			T.		.06						.07	.60	T.				1.50	.52	.53	.30	4.17
Watertown ‖	Rock					.28		1.45		T.	1.20			3.40						T.	.14	1.52			.04				.15	.05	.10	T.	8.33
Waukesha	Fox				.11			.52			.08			2.08					.15		1.48			.20	.02				.15	.12	.02		4.93
Wausau	Wisconsin	.23		.19	.53	.20		.13		T.	.82			1.60		.65						T.		2.00	2.50				T.		.53	.25	9.63
Weyerhauser	Chippewa			.30	.63		.15			.42	.40		.07	.08				.04			.05		T.	1.91								.45	4.50
Whitehall	Mississippi	1.20		.10	.50		T.			.90	.50		T.	1.60	.10			T.			1.40			.80							T.		7.10
Iowa.																																	
Albia ‖	Des Moines	.25						.36					.97	.27					.05		.75					.05			T.			2.70
Algona	do	.57	.45						1.50		.05					.08		T.		1.35	.67							.06				4.73
Alta ‖	Raccoon			.10			T.		.98	.04	.35				T.	.19			.06	.12	1.92	.09						.05	.10		.03		4.03
Amana	Iowa	.04									.05		.35	.15					T.	.14	1.13	.38						T.	.02				2.26
Ames	Skunk		.04					T.			.68		.10	.11		.15			.02	.49	1.56	.14	T.					.07			.01		3.37
Baxter	do	.87	.01				.01				.56		.47	.12		.03			.02	.21	1.04	.70		.01				.05	.01				4.11
Belle Plaine	Iowa	1.68	.19					.08			.17		.28	.05						.24	.40	.42						T.	.83				4.34
Belmond	do	.05	.37				T.		.23	.45	1.35		.09			.22		.05	T.	1.19	.73							.08				4.81
Bloomfield	Mississippi	.01			.06		.37	.17			1.35		.62			.02		.06							.41				.05				3.12
Bonaparte	Des Moines	.31			.42		.10				.80		.30	.25											.05								2.23
Boone ‖	do	.09	.21					T.		T.	.35		.24	.03		.05			T.		1.00	.39							T.		T.		2.36
Britt	Iowa		.54	.01					.48		.26		T.		.04			.13	.04	1.53	1.34	.01											4.38
Buckingham	Cedar	.20	1.02				T.	.32		.43			.20	.05		.07				.50	.73	.18						T.					3.70
Burlington ‖	Mississippi	.93	.10					.13			.41		.28	.10								1.90											3.85
Carroll ‖	Raccoon	T.							.27		.63		.12			T.				T.	.90	.06						.10	.43	.09			2.60
Cedar Rapids ‖	Cedar	.45	T.	T.				.14			.17		.13	.07					T.		.27	.98											2.21
Charles City	do		.01				.12		.08	.84			.05		.23	.11			.02	.70	1.65							.02					3.38

TABLE 2.—*Daily precipitation for July, 1912. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Iowa—Continued.																																	
Clear Lake	Cedar								.28		1.00			1.25	1.42						1.00											4.95
Clinton	Mississippi		.06	.26			.06	.12			.67		.02	.01					T.	.43	1.77	.38						1.35				.05	4.18
Columbus Junction	Iowa	.12					T.				2.35			.22			.08		.03	.03	.50	.58								T.		4.91
Davenport	Mississippi	.40	T.	.14			.01	.03			.94		.12	.05			T.		.01	.02	.75	1.29			T.			T.	.03	T.		2.79
Decorah	do									.11	.80					.19			.02	.03	2.80	.02		.09				T.	.07		.15		4.28
Delaware	do						.01				.39		.04							.29	.83	.05											1.61
Des Moines	Des Moines	.17				T.			T.	.89	.52		.52	.04					.03	.17	.60				T.			.08	.05			T.	3.07
Dubuque	Mississippi		T.	0.1			1.25			.59	.30		.04	T.					T.	.14	.88				T.			T.	1.40		.20	T.	4.81
Earlham	Raccoon	.15	.02				T.		.39		.70		1.40	.08					.19		T.	T.			T.			.20	.15			T.	3.28
Elkader	Mississippi			T.			.45				.35		.03	1.25		.05				*	2.56								.10				4.79
Elma	Wapsipinicon		.25	.05			.14		.12	.25	.50		.26	1.71		.15		.02	.05	.25	2.65							.02					6.42
Estherville ‖	Des Moines		.35	.45					.15	.20	.20				.11	.21			.30		2.70	.10				.20			.20		.40		5.57
Fairfield	Skunk	.28	T.	.06			.03				1.72		.32	.07			.07		.05	T.		1.07	T.		T.				T.				3.67
Fayette	Mississippi			.21			.05		.01		.63		.04	.71		.06				.36	2.12							T.	.08				4.27
Forest City ‖	Cedar	1.40	.75			.25			.25	.36			.12			.10		.14			2.10	.20						.08					5.75
Fort Dodge ‖	Des Moines		.15							.12	.62		.30			.28			.05	1.95	.15	.60							.16				4.38
Fort Madison	Mississippi	T.		.05							.75		.35	.10					T.			1.50							T.				2.75
Gilman	Iowa		T.	T.		T.	T.				.48		.70	.18		.04			T.	.21	.24	1.07						.07	.11				3.10
Grand Meadow	Mississippi						.70	.04	T.		.60		.03	2.50		.12			.03	.12	2.82	.01						.02	.31		.26		7.56
Grinnell	Iowa	.20	T.				T.	.03			.12		.31	.06			T.			.16	1.10	.37						.04	T.				2.39
Grundy Center	Cedar	T.	.18				.10		.22		.38		.28			.06				.01	1.50							.03					2.76
Guthrie Center	Raccoon	.24	.01			T.			.39		1.14		1.42	.13		.20			.01	.34	1.78	.09		.00	.00		T.	.58	1.01	T.		.10	7.56
Hampton	Cedar		.20						.32	.82		.03			.02	.21		T.		1.78	.07							.05					2.50
Humboldt	Des Moines																																
Independence	Wapsipin'n	.75		.02				1.12			.12			.10						.30	1.25	.01						.02					3.75
Indianola	Des Moines	.42	.04								1.54	T.	1.85	.10					.15	.03	.28	.02			.06	T.			.03				4.52
Iowa City ‖	Iowa	.07	.92					.10			.52		.35	.15					.02		.12	1.24								.11			3.60
Iowa Falls ‖	do	.38	.30	.22				T.		.46	.27		.04	.40		.06			T.		1.60	.83							T.				4.62
Jefferson	Raccoon						.18		.20		.80		.08	.30	.36				.02	.48	.75								T.			.04	3.01
Keokuk	Mississippi	.30		.34							1.04		.66	.01							.03	2.07			T.					T.		4.45
Keosauqua ‖	Des Moines	.06		T.	.08			.07			1.12		.35	.27			T.		T.			.10				.09				T.	T.		2.14
Knoxville	do		T.			.09					.92		1.58	.19					.12	T.	.65	.14			.02				.15				3.86
Lacona	do	.02	.04								.10		1.72	.25					.08	T.		.10			.02		.20	.01	.05				2.59
Lansing																			.05		1.50	1.27		.35					.05				
Le Claire ‖	Mississippi	T.		.35	T.			.61	.20		.59		.08	.09				T.		T.	.15	.97	T.							T.		T.	3.04
Marshalltown ‖	Iowa		.01	T.				T.		.12	.24		.44	.12		.06			.01		.54	.64			T.				.01		.06		2.25
Mason City	Cedar	.02	.20							.22	1.30	1.47		.04	.02		.02			.09	.79	2.04											6.21
Monroe	Skunk	T.								.85			.26		T.				T.	.21	.37	.65							.99				3.33
Mount Pleasant	do	.14		T.			.20				1.13		.52	.15			.05		T.	T.		1.33			T.				T.		T.		3.52
Muscatine	Mississippi	.48	.40	.10					.02		1.38		.37	.10						.02	.10	1.77							T.	.06			4.80
New Hampton	Wapsipin'n	.02					.95		.12	.42	.60		.16	.50		.15				.40	1.72	.02						.02					5.08
Northwood	Cedar	.65	.20	.02					.06	*	2.80		.41	.84		.10		.10	.10	.95	.85	T.		T.				.18					6.66
Olin	Wapsipin'n	.25						.12			.50		.10	.25					T.	.13	1.12	.77											3.24
Osage	Cedar		.53					.11		.17	1.20		.30	2.00	.14			T.	.16	.35	2.44						T.						7.40
Oskaloosa	Des Moines	.11		T.			.97				1.07		.55	.50					.08	.13	.48				.02				.16				4.07
Ottumwa	do	.61		T.							.60		.74	.64							.88								T.				3.47
Pella	do	T.	.01								1.09		.60	.13					.02	.12	1.55	.12			T.			.02	.02				3.68
Perry	Raccoon	.23	.83			T.	T.		T.		1.13		.41	.14		.17			T.	.42	1.49	.32						.15	.06				5.35
Plover	Des Moines																																
Pocahontas	do	.76	.04					1.05			.13		.18			.17		.02		1.31	1.16							.10			T.		4.92
Ridgeway	Mississippi			T.		.03	.18		.05	1.13			.43		.16			.03	.10	.45	1.87	.02		.07				.11			.75		5.38
Rockwell City	Raccoon	.75	1.25						.50	1.00	.50	T.								1.10	.75							.40					6.25
Sac City	do						T.		.29	T.	.59		T.			.12		T.	.05	.90	.35			.06				.21		T.		.07	2.64
Saint Charles	Des Moines	.03	.20				.08		T.		.66		1.49	.07						T.	.13	.02			.04			.24	.04				3.00
Sigourney	Skunk	.20					T.				.12		.40	.25			T.		.09	.04	2.03				T.			T.	.14				3.27
Stockport	do	.44		.85			.07				1.16		.32	.11			.05		.03			.30			.01			.01	T.		T.		3.35
Storm Lake	Raccoon	T.	T.	.06			.01		.79	.20						.24		.05	.02	1.71	.60			.02						.04		.10	3.90
Tipton	Cedar	.16					.09						.19	.06						T.	1.03	.12							.76				2.41
Toledo	Iowa	.26		.05			.97	.13			.17		.30	.36		T.			T.	.35	.30	.50			T.								3.39
Wapello	do	.26					T.					1.35		.26	.82							2.44											5.13
Washington	Skunk						.20				2.65		.20	.12							2.88	.65											6.60
Waterloo ‖	Cedar	2.65		T.				1.10			.27		.16	T.		.03					1.00	1.00	.02						T.				6.23
Waukee	Raccoon	T.	1.16				T.				.50	T.	.68	.05					.05	.21	.08	.25			T.			.15	.37			T.	3.50
Waverly	Cedar								.15	.27			.13			.07					2.25	.02											2.89
Webster City	Des Moines	.04	.44				.47		.04		.38		1.53	.05		.10		T.		.97	.85							.10					4.97
West Bend	do	.18	.75						.86		.05		.04			.07		.07		1.90	.25							.08		.10			4.35
Whitten	Iowa	.14	.46					T.	.23		.21		1.30	.09		T.			T.	.87	1.11	.07						T.					4.48
Winterset	Des Moines	.29	.01						.19		.41	.01	1.30	.10		T.			.21	T.	.08	.05			.05			.26	.08				3.04
Missouri.																																	
Gorin	Mississippi	.38		.13			.07				.10		.40	.04	.03						1.20				.04								2.39
Hannibal	do	.10		.28			T.	.05		T.	.03		.84		T.		T.				.06												1.36
Louisiana	do		.05	.25				.65			1.05		.53								.22												2.75
Mexico ‖	do			.09	.99			.09	T.			T.	.03	T.	T.			.01					.02	.24		.01			T.	T.			1.48
Palmyra	do			.42			.06								.32	.01																	0.81
Steffenville	do			.25			T.	1.42			T.													.25				T.					1.92
Sublett	do						1.00				.50		1.00	.10							.20			.34									3.14
Vandalia	do															.18																	0.18
Warrenton ‖	do			1.14	.90			.07		.06	.01	.86		.02				1.04						.01						T.			4.11
Indiana.																																	
Collegeville	Iroquois	.15	T.					T.	2.04		0.30		T.	.38							.41		1.14					.09	.34	.13			4.98
Knox	Kankakee							2.41	1.05	.38	.02			.41	.58						.02	1.63		.18				.35		.15	.03		7.21
Laporte	do			T.				.45	.25	.04	.14		T.	.65						.30	.20	.50		.08				.81	T.				3.42
Plymouth	do		.14				T.	3.19	.23	.47				.60	1.31							1.61		T.				.22	.02	.51			8.30
South Bend	do		.01				.11	1.62	.19	.54	.77			2.11								1.09		.12	.01			.29		.20	T.		7.06
Illinois.																																	
Aledo	Mississippi	.12	T.	.49			.24				.98		.18	.31			T.		T.	.02		2.13						T.		T.			4.47
Alexander	Illinois	.85	.10	.17			.35	T.			.13		.09								T.							.08		.23			2.00
Antioch	do				T.			T.						5.10							1.25	1.85		T.				.50					8.70
Astoria	do	.32	T.	.35			.15		.07		.27		.24	T.								.12			T.			T.		.04			1.56
Aurora	do	T.	.19					.13			.06			.05			T.		T.		.27	.77		1.59				.54		.48	.25		4.33
Beardstown	do	.25	.70					T.			.50	.10	T.	.95																.15			2.65
Bement	Mississippi			.44					.06	.02	.25				.18						.02			T.				1.44		.02	T.		2.43
Bloomington	Illinois	.04	T.	.92				T.		.23	.68		.02	.09								2.34						.93		T.			5.25
Cairo	Mississippi	.43	.03	.01		.43	.40	T.	T.		.02								T.		T.	.53	T.			.05				T.			1.90
Carbondale	do		.69	.66	.04		.06					.23						.11			T.	.73	.12					T.					2.64
Carlinville	Illinois	.02	.64				.85				.63		.01		.65													.04					2.84
Carlyle	Mississippi	T.	.28	.08			.16				.65				1.55	1.00	.06					1.40											5.18

TABLE 2.—*Daily precipitation for July, 1912. District No. 5*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Illinois—Contd.																																	
Chester	Mississippi	.02	.18		1.36		.82	.03				.74			T.				T.				3.14	.04					.18		.02	6.53
Clinton	Illinois	1.15	.22	1.42			.11		.41		.36		.02	.84								.10							.75		.02	.04	5.44
Coatsburg	Mississippi			T.						.33			.50																			0.83
Cobden	do		.92	.83							.10							.91			.43	.52						T.				3.71
Dakota	do		.08	T.				.25			.54		T.	.09					T.	T.	2.00	1.86		.06	T.			1.08	T.	T.	.12	6.08
Decatur	Illinois	.33	T.	.48			.11	.65	.02	.02	.04		.02	.34								T.						.59		.07		2.67
Dixon	Mississippi	.40		.05	T.						.29			.05						T.	.34	1.20						.96		.05	T.	3.34
DuQuoin	do		.02	2.01			1.40				.47							.39				3.05						T.		.03		7.37
Dwight	Illinois	T.	.03	.36				.03	.21		.12			.03						T.		.64						.85		.09	.02	2.38
East St. Louis	Mississippi		.47	.02	.18		.01					.74		.17	1.51			1.11	.10				.03									4.34
Edwardsville	do						.51	.11			.52	.33			6.00			1.30			.04	.03										8.84
Elgin	Illinois				.03		.05	.36						.10					.02		.39	1.01		.29				.35		.06	.09	2.75
Ewing	Mississippi																																
Fairview	Illinois	.15	T.	.51			T.		.01		1.10		.14	.02			T.		T.	T.		2.30			.04			.01		T.		4.28
Galva	do	.67	T.	.57	.08			.01			.62		.05	.05	.04						T.	1.01						T.			.06	3.16
Grafton	Mississippi		.71	.08	.95				.06			.52		.04	.77								.04									3.17
Greenville	do																																
Griggsville	Illinois	T.		.21			1.53			T.	.32	.30					T.					T.						T.				2.36
Havana	do	.03	T.	.38			.41				.35		.42	.05			.03					.08		T.				.05		T.		1.80
Henry	do			.02				T.	.30		.33	.05	T.	.06								1.33		21						T.	T.	2.30
Hillsboro	Mississippi		T.	.35	.50			T.	1.12			.35		T.					1.35													3.67
Joliet	Illinois	T.	T.					.02		T.			T.	T.					T.		.80	.05		.17				.35			.16	1.55
Kishwaukee	Mississippi		T.					.09			.30			.54					T.	.02	1.35	1.15		.22				.89		.07	.61	5.84
La Grange	Illinois																																
La Harpe	do	T.		.80			.72				.42		.43	.03	T.		T.		T.			1.96		T.				T.				4.36
Lanark	do	.03	.02	.70			.15				.45		T.	.27						T	2.80	.29		T.	.02		T.	.93		.17	T.	5.83
La Salle	do	1.04	.04	T.			.04	.42			.21		T.	.05					T.	T.	.20	.36		T.				T.		.04		2.40
Lincoln	do	.62		.68			T.	.12		T.	.57		.20	T.			T.					.05			T.			.48			T.	2.72
Loami	do	1.20	.10	.25			1.90	T.			.76		.07	T.				T.				T.						.37		.27		4.92
Macomb	do																																
Manteno	do	T.	.23	T.			.14	2.20	.08		.06			.06							.03	1.60		.60				.26	T.	.55	.17	5.98
Martinton	do	.13		.05				.50	.07		.13	.28			.02							.61						.04	.40	T.	.08	2.31
Mascoutah	Mississippi	.04	.03	.15			.20				1.10		.77		.20	.76						.05	.30					T.				3.60
Minonk	Illinois	.05	.10	.30	T.				.10		.27		T.	.04			.02					1.93		T.				T.			.04	2.85
Monmouth	Mississippi	.18		.32			.65			.03	.90			.14						T.		1.65						.07		T.		3.94
Morris	Illinois	.05	.96	.61				.18			.12			.02							.01	1.46						1.10		.27	.05	4.83
Morrison	Mississippi		.20	.07	T.		.81	.17			.30		T.	.03						.01	1.35	.72						.13		.29		4.08
Morrisonville	Illinois	.34	.02	.35	.04		T.	.07	T.	.52	.38	.01	.01		T.			T.										.09		.17		2.00
Mount Vernon	Mississippi	T.	.55	.35	.10							2.00							1.22				1.01	.45					.30			5.98
Nashville	do	T.	T.	T.	.07	T.	1.05	.02				.65	T.	.20								.50	.19					2.05				4.73
Oregon	do		T.					.24			.38			.35					T.	T.	1.27	.95						1.20			T.	4.39
Ottawa	Illinois	.22	.16	.05			.05	1.02			.13											1.13						.32		.05	.15	3.28
Pana	Mississippi	.97	.13	.30						1.23		.20																.82		.04		3.69
Peoria	Illinois	.15	F.	.08			.01	T.			1.89		.08	.09			T.		T.	T.	.37	2.30						.02		.03	.02	5.04
Pontiac	do	.04	.03	.11			.01	T.	.63	.03	.57			.30							T.	1.15						.07		.01		2.95
Quincy	do				.10			.05	.19		T.		.32	.03								T.										0.69
Riley	do				.40			.94	1.04		.03			.34					T.	T.	.96	1.06		.13			T.	.44		.07	.18	5.59
Roberts	Illinois		.02	.30			T.		.01	.02	2.97		T.	.30								.97		T.				.50		T.	T.	5.09
Rockford	Mississippi			.05		T.		2.70	.05		.47			.30					T.	T.	.58	2.97			.57			.45	.02		.05	8.21
Rushville	Illinois	.34		.05			T.	T.			.55		.57				T.					T.										1.51
St. Charles	do																																
St. Peter	Mississippi	.20	.25	.55	1.95	.05	1.05	T.	.03		.15	.20			1.20	T.		.55		T.		.48	T.					1.45		.65		8.76
Sparta	do	.01	.25	.77		.10					.68				.01						T.	.58	1.01									3.41
Springfield	Illinois	.10	T.	.11			2.97				.35		.05	T.	T.							T.						.84		.05	T.	4.47
Streator	do	.10	.01	.46	.07			.11			.12	.03		.02	.03			T.		.01	.05	.64		.08				1.13	T.		.22	3.08
Sullivan	Mississippi	.21	.27	.15							.25				.65	.05												.60			.16	2.34
Sycamore	do					.16		.10	.15		.12										.70	1.44	T.		.69			.65	T.		T.	4.01
Tiskilwa	Illinois		T.	.05			.15		.03												.10	.75						T.		.05	T.	1.13
Walnut	Mississippi	T.		.05				.81	T.		.31		T.	.05					.01	T.	.03	1.10						T.		.07		2.43
Warsaw	do	.30		.19							.96		.51									2.22		T.								4.18
Waterloo	do	.20	T.	.35	T.	T.	.22	.01			.25	.19			T.	.30		.03				.18	.01						T.	T.		1.74
White Hall	Illinois	.02	.14	.42			.08				.44		.38									T.								T.		1.48
Windsor	Mississippi	.85	.24	.15	.10		T.				1.85		T.		1.92			.02										1.70			.15	6.98
Winnebago	do		.03				.03	.38			.58			.15					T.	T.	2.16	1.06		.56				1.02		.17	.67	6.81
Yorkville	Illinois		.16	.02				1.41			.04			.01					.05			1.10		1.17				.68		.01	.30	4.95
Zion	Mississippi			T.			T.				.54		T.	.18					T.	T.	2.00		T.	T.			T.	T.			T.	2.72

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 5, upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																	
	Bottineau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm.§§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	93	73	88	70	89	64	93	71	86	60	83	62	91	69	77	63	83	66	87	65	87	67	83	57	71	64	83	60
2	78	64	78	63	82	65	80	67	82	60	81	62	85	67	81	57	84	63	83	65	81	65	82	61	83	63	83	59
3	79	51	77	59	82	60	76	53	81	53	85	65	81	65	91	62	85	64	82	65	84	66	80	60	84	66	82	60
4	66	55	68	57	86	62	66	55	77	57	84	64	82	58	90	67	87	63	86	60	90	65	82	60	84	66	86	62
5	69	57	80	58	87	64	------	57	81	54	85	64	86	62	93	69	87	66	85	66	92	66	84	59	89	69	85	65
6	85	50	82	55	86	56	73	------	93	59	87	67	86	60	89	65	87	65	86	60	90	69	84	69	88	70	89	62
7	78	52	77	58	89	56	77	53	84	63	88	67	93	65	91	61	93	65	90	65	95	66	88	70	89	66	89	64
8	78	55	81	54	88	61	76	44	84	62	86	68	89	61	83	65	85	66	88	63	89	67	84	61	86	69	90	62
9	72	47	68	54	81	59	72	41	68	59	84	62	76	63	90	60	82	62	76	59	77	68	86	60	83	67	84	60
10	77	44	74	50	84	49	78	45	82	54	84	62	78	63	90	56	80	55	76	52	75	57	73	55	76	61	78	54
11	80	53	79	58	87	56	77	54	81	58	74	58	75	53	78	56	82	62	76	59	77	68	86	60	83	67	84	60
12	74	53	71	57	82	59	------	53	76	62	79	56	81	55	82	51	85	58	83	58	84	57	78	50	80	55	77	52
13	85	48	81	56	78	50	86	------	81	58	80	63	77	62	83	60	81	62	81	60	85	63	80	60	82	63	78	53
14	59	54	72	45	72	52	80	38	60	50	86	58	80	54	82	62	83	56	82	55	90	59	78	54	80	63	80	60
15	75	30	68	41	73	37	75	34	68	38	83	63	72	58	91	58	75	63	75	48	92	65	68	54	87	59	75	57
16	73	42	71	52	83	45	72	54	78	48	69	44	70	41	81	48	70	45	68	41	72	48	60	46	68	49	69	46
17	69	41	66	47	73	47	68	47	66	44	76	51	73	41	76	44	82	48	78	48	82	48	72	47	75	49	68	47
18	73	34	68	45	73	42	73	37	76	34	77	59	68	50	75	54	77	59	72	52	75	49	72	56	76	61	69	52
19	74	50	69	52	65	47	------	38	74	42	73	54	70	46	74	51	76	55	70	44	73	56	76	58	71	55	66	45
20	69	52	71	54	78	56	72	------	74	51	71	55	70	46	64	49	59	53	62	48	65	53	70	38	64	51	72	46
21	65	49	60	50	81	54	69	50	76	50	63	53	72	57	65	51	64	55	71	56	74	55	68	56	61	55	74	54
22	85	50	87	54	85	60	82	50	81	52	79	55	70	53	73	56	80	58	74	55	80	54	72	49	77	58	66	52
23	82	58	84	63	84	65	82	63	90	59	77	62	85	58	79	57	81	60	84	63	84	62	79	56	73	59	78	53
24	77	50	78	58	85	56	80	58	76	52	82	68	82	60	82	72	90	62	85	67	97	62	79	65	89	68	82	64
25	67	53	71	55	86	57	68	51	66	52	80	61	72	55	82	59	85	63	84	59	83	73	80	65	84	71	80	65
26	90	55	88	57	87	52	93	56	82	48	85	59	89	56	83	54	84	68	88	60	84	58	81	49	82	61	84	62
27	85	55	83	62	88	54	86	58	92	60	83	63	87	67	78	57	80	65	88	62	75	63	85	59	81	62	88	68
28	83	56	77	54	80	54	82	50	78	60	76	65	80	60	81	56	80	64	80	60	85	62	76	64	82	67	82	58
29	85	50	79	60	88	54	82	56	81	51	83	59	84	55	81	61	88	55	86	54	89	56	82	56	83	61	80	60
30	84	50	78	54	83	55	82	50	81	52	77	59	56	77	59	87	86	56	81	54	77	60	76	58	79	61	76	58
31	77	51	72	51	79	55	75	52	76	48	76	55	73	50	76	54	80	58	76	52	80	55	73	53	75	58	78	56
Mns.	77.0	51.0	75.7	54.9	82.1	54.9	77.7•	51.2•	78.4	53.5	79.8	60.2	79.4	57.0	81.3	58.0	81.4	59.9	80.2	57.1	82.9	60.5	77.6	56.8	79.4	61.6	79.0	57.3

Date.	Wisconsin.												Iowa.											
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids.§§		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	76	62	83	64	80	59	81	63	78	60	83	54	78	51	85	63	85	68	83	65	85	67	86	67	82	65	86	65
2	86	56	88	61	87	59	86	60	83	58	83	52	83	55	83	64	87	65	84	62	84	66	86	66	84	61	84	65
3	89	67	89	63	85	64	87	71	85	68	83	58	82	66	89	67	93	67	91	68	82	71	91	72	85	71	82	68
4	85	67	83	61	83	64	81	66	80	65	78	56	81	63	81	73	99	72	94	70	93	69	95	75	91	70	93	69
5	92	68	93	66	94	70	93	73	91	71	88	64	89	62	91	69	99	72	95	71	95	74	96	70	94	73	94	73
6	90	67	91	67	95	72	91	71	92	67	88	68	90	70	86	69	92	71	89	66	93	71	89	67	92	65	92	71
7	87	63	93	65	89	65	90	67	84	67	88	66	89	64	91	64	94	68	93	64	91	70	92	65	88	68	91	69
8	87	68	90	65	92	69	87	70	88	68	88	64	90	68	87	65	96	70	90	68	93	72	95	70	90	71	93	70
9	83	70	85	63	95	72	94	65	92	70	84	68	88	71	92	69	100	74	96	63	94	76	98	68	94	67	95	75
10	78	62	77	56	94	59	80	63	80	63	83	61	84	64	79	58	82	68	79	62	87	68	80	67	80	66	84	66
11	79	55	82	46	82	60	81	58	80	62	78	44	76	56	80	55	85	66	83	56	83	62	82	64	82	61	85	67
12	79	60	81	53	82	59	86	63	81	59	78	55	76	58	89	73	89	69	89	56	83	66	87	67	84	65	82	68
13	80	63	83	57	84	65	82	65	82	65	76	60	80	66	84	62	89	69	89	63	90	73	87	69	85	67	88	77
14	87	58	86	56	87	58	93	60	88	66	79	54	84	54	95	63	99	62	96	61	95	66	99	68	93	60	95	70
15	78	50	71	43	86	55	69	52	81	53	79	46	84	50	71	49	76	61	70	52	84	62	72	59	79	58	82	66
16	74	45	77	38	73	48	75	49	71	51	69	42	70	44	79	45	79	54	78	47	79	55	79	58	75	52	80	58
17	75	54	81	57	80	57	74	55	82	55	74	54	71	54	75	----	88	54	77	55	88	59	86	62	84	54	86	63
18	74	56	73	49	74	50	72	52	72	57	74	48	71	54	74	56	73	57	72	52	80	61	78	63	75	59	81	66
19	68	47	71	40	70	50	67	48	67	53	66	34	71	43	67	49	72	51	62	47	73	55	66	56	68	52	78	57
20	64	54	66	54	66	52	62	54	65	52	66	46	66	49	69	56	82	56	74	54	89	58	86	64	76	55	92	63
21	77	58	84	52	78	51	72	58	70	59	73	51	75	54	74	59	72	59	73	59	73	65	76	62	68	59	78	66
22	75	57	81	50	79	56	77	56	78	59	73	48	75	54	85	57	85	57	82	54	82	60	85	60	80	55	86	61
23	80	67	82	67	79	54	94	69	88	64	70	64	75	54	93	73	100	59	95	71	94	77	98	77	94	71	96	74
24	80	69	86	63	88	69	88	69	85	71	81	61	85	67	87	79	93	73	87	68	94	73	91	76	90	75	91	77
25	80	62	81	57	82	60	80	63	76	66	81	56	82	60	86	62	87	67	82	60	94	77	97	67	84	66	89	68
26	80	56	86	50	79	54	80	58	76	61	77	47	75	53	84	56	85	61	83	56	84	63	83	65	81	62	85	65
27	82	57	85	60	84	58	80	59	77	58	80	49	82	55	78	65	85	65	76	64	81	62	85	66	78	61	86	63
28	85	67	84	56	88	60	88	64	85	64	81	63	84	65	87	65	90	66	86	62	90	70	90	71	91	64	95	73
29	81	60	84	57	82	59	81	62	78	63	81	51	79	57	85	57	85	64	82	59	85	62	86	59	81	65	84	65
30	79	60	80	54	80	57	80	63	78	63	74	50	75	54	80	65	83	62	80	58	85	64	83	67	80	62	90	66
31	75	56	78	48	73	54	75	58	69	53	72	45	70	51	79	57	81	58	77	53	81	60	83	60	74	59	83	62
Mns.	80.2	60.0	82.4	56.1	82.9	59.3	81.5	61.4	80.1	61.5	78.3	54.2	79.4	57.9	82.9	62.1	•87.4	63.5	83.3	60.6	86.4	65.7	86.4	66.0	83.3	63.2	87.3	67.2

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 5*—Continued.

Date.	Missouri.		Indiana.		Illinois.															
	Hannibal.		La Porte.		Cairo.		St. Peter.		La Salle.		Monmouth.		Mt. Vernon.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	67	84	52	78	67	84	64	85	61	87	65	85	67	85	66	86	67	79	60
2	84	67	84	64	78	67	79	64	82	61	82	65	80	67	83	65	83	66	84	60
3	80	67	86	67	87	70	82	67	82	71	82	68	87	69	82	68	80	70	88	55
4	91	69	86	63	91	71	90	67	92	66	93	67	91	67	93	65	93	68	92	60
5	92	69	92	63	91	68	91	72	96	72	95	68	90	70	94	71	95	73	98	.....
6	90	68	91	71	81	70	87	74	91	73	94	67	85	70	92	70	90	69	94	70
7	89	66	86	68	81	72	83	70	86	70	90	67	86	70	88	67	87	68	89	65
8	91	71	83	65	88	72	90	69	93	70	93	68	92	71	92	69	92	72	95	67
9	93	75	88	68	88	72	90	69	94	73	95	72	90	68	96	72	92	73	96	71
10	87	70	87	66	87	71	85	67	85	68	84	66	83	76	81	66	86	67	86	65
11	87	68	83	65	87	68	89	67	86	64	84	59	89	66	85	63	85	68	86	59
12	84	69	84	61	88	72	85	68	83	63	81	64	88	67	82	63	80	68	87	58
13	91	76	85	66	92	76	95	72	87	70	86	72	91	75	87	70	93	73	89	69
14	95	73	82	65	93	75	95	78	94	65	94	63	94	71	93	64	95	75	94	60
15	80	70	80	61	93	77	92	73	83	55	83	63	95	73	81	62	85	65	85	60
16	78	61	78	52	88	74	85	59	79	53	84	55	88	63	78	54	79	59	77	45
17	87	64	78	69	88	75	91	67	87	55	86	57	90	65	86	59	88	67	90	50
18	81	64	76	54	87	74	87	68	81	57	82	62	86	68	82	60	83	65	80	60
19	79	60	77	47	81	69	80	58	72	51	77	51	81	63	75	54	77	57	71	48
20	91	66	82	47	86	68	88	60	90	56	91	62	88	62	91	62	91	61	80	53
21	80	69	71	49	91	71	88	76	74	66	82	67	80	69	78	64	84	68	71	61
22	87	65	81	53	89	72	86	66	83	60	84	57	86	70	83	59	87	62	83	54
23	96	75	78	61	93	77	93	70	93	66	94	68	93	69	93	68	96	70	92	62
24	96	78	89	71	93	78	94	75	93	73	89	66	94	71	90	74	97	77	90	75
25	90	73	78	67	88	75	91	72	86	66	86	64	86	72	86	65	91	71	84	62
26	86	65	72	59	83	71	88	71	81	60	84	59	81	68	82	60	84	63	80	56
27	84	61	78	55	84	66	81	59	84	56	85	60	82	61	84	57	85	60	83	53
28	96	73	84	60	90	68	88	64	87	66	94	68	90	62	91	66	90	68	88	63
29	84	64	75	60	90	75	85	63	85	62	85	61	84	68	84	61	84	66	81	60
30	92	63	81	58	87	69	82	61	84	60	88	58	82	62	87	58	86	64	80	55
31	84	59	68	53	83	71	83	60	72	56	83	60	82	62	78	57	82	62	74	52
Mns	87.4	67.9	81.5	60.3	87.2	71.6	87.3	67.4	85.5	63.4	87.0	63.5	87.1	67.8	85.9	63.8	87.3	67.2	85.4	59.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

In the southeastern part of the district, or in the territory below a line drawn northeast and southwest through Sioux City, Iowa, comparatively warm and dry weather prevailed, but crops suffered very little on account of the lack of the seasonal amount of rain, for the showers that occurred were distributed uniformly through the month. To the northwest of this line the temperatures were lower and the precipitation heavier. In Montana the mean temperature for the month was the lowest July average in the last 18 years, and several stations in Montana, Wyoming, Colorado, and North Dakota had temperatures below the freezing point. Both the Dakotas had frost on the 15th. In North Dakota it was heavy and caused considerable damage to crops and garden vegetables, especially in the Missouri Valley; in South Dakota it was light and no extensive damage resulted. A noteworthy feature of the month was the large number of heavy local storms; even in the sections over which the precipitation was as a rule deficient there were some places of very small extent where excessive rains occurred. On the morning of the 14th there was a thunderstorm over the mouth of the Missouri River that gave 3.15 inches of rain in St. Louis in two hours; 2.95 inches of this amount fell in one hour, and it was the heaviest fall in that length of time ever recorded in St. Louis. This storm was phenomenally heavy in Alton, Ill., a description of which appears under District No. 5. In Iowa a miniature tornado is reported to have passed 4 miles north of Little Sioux, Harrison County, on the 9th, moving from the southwest; it blew a barn over and moved a dwelling and a schoolhouse from their foundations; beyond this there was little damage. In Kansas a hailstorm occurred on the afternoon of the 11th at the headwaters of Grasshopper Creek, in the northeastern part of the State; it covered a strip of country 10 miles long and 6 miles wide, in which all kinds of crops were damaged or destroyed; window glass was broken and chickens and small pigs were killed by the hailstones, some of which were nearly as large as hens' eggs. At Grant, Perkins County, southwestern Nebraska, a 24-hour rain of 4.83 inches fell on the 25th. There was some local damage by hail in South Dakota. Numerous heavy local rains occurred in the eastern portion of Montana; near Bainville, Valley County, one of them was especially heavy and resulted in the sudden filling of a small and normally dry valley to a depth of 10 feet or more, and to a width of a fourth of a mile. Buildings and crops of several homesteaders were damaged or destroyed. Heavy showers were also frequent in Wyoming and washed out some roads, bridges, and crops. Hailstorms occurred often; crops suffered from them, and it is reported that in one of them a child was killed in the northern part of the State. On the 14th an excessive rain in the Cherry Creek Basin, Colo., caused an overflow throughout the greater part of the course of the creek; much damage resulted to both public and private property.

TEMPERATURE.

In the region comprising eastern Nebraska, southwestern Iowa, most of Kansas and Missouri, the mean temperatures for the month were 1° to 3° above the normal. There were no prolonged periods of excessive heat, but there was a seasonable number of hot days well distributed through the month. In the Mountain States, the Dakotas, and western Nebraska, there were several days that were hot, but generally the temperatures were lower than they are in the average July, and the month may be placed in the list of unusually cool ones. Two waves of high atmospheric pressure moved across the district between the 14th and the 19th, and gave the coolest weather of the month, except in the Mountain States, where there was no well-defined period of low temperatures. In the lower part of the district the 14th was quite warm, and cool weather immediately following it gave marked temperature ranges, amounting to as much as 50° in 24 hours in a few localities.

PRECIPITATION.

Over a narrow strip of country at the mouth of the Missouri River the excessive rain of the 14th raised the total precipitation for the month considerably above the July normal. At a few places on the upper Gasconade watershed, and in some of the territory drained by the streams entering the Osage River from the south, there was an excess in precipitation. In the remainder of Missouri, Western Iowa, eastern Nebraska, and eastern Kansas there was a marked deficiency. To the north and west of these sections the rains were heavier than they usually are in July. The region having the greatest monthly total comprised the Dakotas, eastern Montana, and northeastern Wyoming. In every part of the district the distribution of the rainfall through the month was quite uniform.

RIVERS.

In the larger streams the stages were somewhat below the July average. Some of the creeks and small rivers of the mountain and foothill country were in flood locally on account of heavy rains. The Mississippi at St. Louis rose slightly more than a foot and a half within six hours after the excessive rain at the mouth of the Missouri on the 14th. In a day the river was again at its former stage.

FLOOD IN CHERRY CREEK BASIN, COLORADO, JULY 14, 1912.

(By P. McDonough, Local Forecaster, United States Weather Bureau.)

During Sunday afternoon and evening, July 14, 1912, torrential rains occurred over the greater portion of the Cherry Creek drainage basin, especially between Castle Rock and Denver. This stream is an unimportant tributary of the South Platte River, and forms a junction with that river about 200 yards above the Sixteenth

Street viaduct in Denver. It has its source about 50 miles to the south of Denver, and its course to the South Platte lies through the heart of Denver. Its ordinary flow is insignificant, and this is true of the volume of water carried by it during most of Sunday. Between 3.25 p. m. and 6.30 p. m., 2 inches of rain fell in Denver. Of that amount 1.72 inches fell in a period of 30 minutes. At Castle Rock the rain began at 5.15 p. m. For a period of 25 minutes it was very heavy, and by 7 p. m. 1 inch had fallen. It continued after 7 p. m. in the form of a drizzle, and by the morning of the 15th an additional 0.65 inch had occurred. In the southern portion of Denver and in that part of the drainage area lying to the north of Castle Rock the rainfall was apparently considerably greater than at the Weather Bureau station. Aside from flooding streets, the rainfall in Denver proper did not contribute materially to the flood that later in the night inundated the low-lying districts of the city. However, it caused a rise of about 2 feet in the South Platte between 3.30 p. m. and 4.30 p. m.

Up to 8 p. m. there was but little increase in the flow in Cherry Creek, and no evidence of flood conditions were observed in that stream in the vicinity of Denver, but between 8.30 p. m. and 9.30 p. m. the water came down the creek with a rush. By 9.45 p. m. the stream was bankfull, and by 10 p. m. the water overflowed the banks and spread out two blocks on each side of the creek, north of Welton Street. In the vicinity of the railroad yards and Union Depot the area flooded was much greater. At 10.45 p. m. the water was about 2 feet above the floors of the bridges that cross the stream in the downtown districts, and in the vicinity of the Union Depot it was from 2 to 3 feet deep.

The maximum height attained was about 11 feet, and the maximum flow about 11,000 second-feet. After 10.30 p. m. the flood subsided rapidly. At 11 p. m. the water was well within the banks of Cherry Creek. At midnight the stream had fallen decidedly, and by the early morning of the 15th only the ordinary flow remained. Sand and silt were deposited to a depth of several inches in all localities that were flooded. Much damage resulted to crops, gardens, parks, streets, bridges, buildings, and to merchandise stored in the basements of buildings in the wholesale district. Traffic was interrupted on railroads, and the city tramway service was suspended for several hours. The Denver Gas & Electric Co., suffered material damage, and the Mountain States Telephone & Telegraph Co., had many of its lines put out of commission. In the aggregate, the damage to property was considerable, and is variously estimated at from $500,000 to $1,000,000. Two lives were lost and several persons were injured.

TABLE 1.—*Climatological data for July, 1912. District No. 6, Missouri Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Arapahoe	Fremont		2																	
Barnum	Johnson	5,500	7																	Thos. Freeguard.
Basin	Bighorn	3,862	13	76.7	+ 2.5	99	13	40	6	54	1.42	+ 1.00	0.78	0	5	24	5	2	nw.	O. J. Robertson.
Bennett	Carbon		3																	Chas. C. Young.
Big Creek Station	....do	7,500	1	57.9		82	22	34	1	43	3.99		1.25	0	9				sw.	U. S. Forest Service.
Burns	Laramie	5,400	2	66.7[e]		90	11†	46	4	39[e]	1.73		0.34	0	10				sw.	E. W. Bastian.
Casper	Natrona	5,101	3																	M. C. Cook.
Centennial	Albany	8,074	9	59.4		78	13†	39	6	35	4.30		1.00	0	10	11	6	14	w.	Louis A. Gregory.
Cheyenne	Laramie	6,088	41	67.4	− 2.4	86	21	46	4	30	1.82	− 0.17	0.39	0	15	5	18	8	s.	U. S. Weather Bureau.
Chugwater	....do	5,282	11	65.6[d]	− 0.2	90	29	44	8†	44[d]	2.09	+ 0.70	0.50	0	11	8[d]	14[d]	5[d]	e.	A. H. Woolever.
Clark	Park	4,320	7	66.6		92	13	43	14	36	1.72		0.58	0	12	11	9	11	n.	Chas. A. C. Snow.
Cody	....do	5,000	5	63.5		90	28†	40	9	39	1.45		0.43	0	9	13	12	6	w.	D. A. Tinkcom.
Crazy Creek	....do	6,828	1			81	25†	27	10	49	3.29		1.29	0	15	14	5	12	w.	Jas. Smith.
Dome Lake	Sheridan	8,821	4	53.3		75	24	33	12	35	3.41		0.50	0	11	11	19	1	w.	Abe Mills.
Douglas	Converse	4,793	3																	Henry C. Miller.
Dubois	Fremont	6,909	5	58.3		88	24	30	9	53	2.10		0.83	0	6	10	19	2	w.	Dr. F. H. Welty.
Eatons Ranch	Sheridan	4,600	7	64.2		89	25	47	1	35[e]	2.60		1.07	0	6	18[e]	11[e]	1[e]	n.	F. A. Eaton.
Echeta	Crook	4,200	3								1.04		0.50	0	6				s.	M. R. Hunter.
Elk Mountain	Carbon		7								1.89		0.58	0						Wm. Richardson.
Encampment	....do	7,322	3	63.0[f]		82	22†	37	5	35[f]	2.05		0.60	0	13	1[f]	24[f]	0[f]	sw.	U. S. Forest Service.
Ervay	Natrona	6,400	3	62.2		86	25†	31	15	46	1.18		0.70	0	5	11	17	3	sw.	Frank Jameson.
Fort Laramie	Laramie	4,270	34	69.6	− 3.2	94	30	47	15	39	4.85		1.05	0	12	9	21	1	w.	John Hunton.
Foxpark	Albany	9,015	2																	U. S. Forest Service.
Germania	Bighorn	4,312		65.4		90	25†	42	9	42	1.64		0.36	0	10	11	0	20	nw.	J. W. Peper.
Gillette	Crook	4,546	6																	S. D. Perry.
Horse Creek	Fremont			51.5		77	28	24	9	42[e]	2.59		1.00	0	9	15[e]	8[e]	7[e]	n.	U. S. Forest Service.
Hunters Station	Johnson	8,000	6	55.0		79	24†	34	10	38	1.98		0.43	0	9	20	5	6	w.	Do.
Hyattville	Bighorn	4,632	13	68.6	− 0.9	98	25	44	9	42	0.17		0.06	0	5	17	3	11	w.	Wm. Booth.
Jireh	Converse	5,050	2								2.94		0.83	0	12	0	30	1	se.	P. L. Ford.
Kirtley	....do		8	65.7		89	22	48	4†	38	3.83		0.85	0	11	21	5	5	s.	D. M. Zum Brunnen.
Kirwin	Park	9,187	3					26	9		3.45		0.82	3.0	12	11	13	7	w.	C. L. Tewksbury.
Knowles	Crook	4,500	3								2.11		0.76		5					Geo. A. Knowles.
Lagrange	Laramie	4,510	2	68.6		90	11†	47	5	40	2.56		0.75		9	19	10	2	w.	Owen Shupp.
Lander	Fremont	5,372	20	66.6	− 1.4	92	28	43	2	41	0.96	+ 0.10	0.36	0	8	8	15	8	sw.	U. S. Weather Bureau.
Laramie	Albany	7,188	21																	University of Wyoming.
Leo	Carbon	6,878	10																	C. A. Cowdin.
Lolabama Ranch	Park	7,052	8	53.8		80	28	30	9†	43	2.80		0.90	0	11	15	10	6	w.	Mary E. Painter.
Lovell	Bighorn	3,825	6																	R. Fred Harrison.
Lusk	Converse	5,007	21	63.9	− 4.1	90	28	40	14†	40	2.33	+ 0.88	1.05	0	6					D. E. Goddard.
Manville	....do	5,050	2								3.19		1.20	0	14	2	27	2	se.	L. C. Stoddard.
Moorcroft	Crook	4,111	8	69.4		98	26	39	15	45	1.54		0.23	0	15	4	21	6	s.	C. T. McCampbell.
Moore	Albany	6,000	11																	Edwin Moore.
Newcastle	Weston	4,319	5	70.6		92	13	44	15	36	3.82		0.97	0	11	8	15	8	s.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	6	68.2		89	25†	48	15†	35	1.90		0.59	0	12	8	17	6	sw.	U. S. Reclamation Service.
Pinebluff	Laramie	5,038	9	67.1[b]		88	8†	50	15†	38[b]	4.72		1.07	0	16					C. L. Beatty.
Pine Ridge	Crook										1.52		0.34	0	11					J. E. S. Altaffer.
Powell	Park	4,376	4	66.4		93	25	46	14	42	0.89		0.22	0	9	14	6	11	nw.	U. S. Reclamation Service.
Rawlins	Carbon	6,748	10	66.0	− 0.5	87	25†	41	3†	35	1.46	+ 0.37	0.45	0	10	12	14	5	w.	E. J. Ehrenfeld.
Riverton	Fremont	4,960	3																	F. H. Allyn.
Rockypoint	Crook										1.36		0.64	0	11	10	18	3	s.	P. Woxen.
Saratoga	Carbon	6,785	14	62.9	− 2.5	84	21†	34	4	40	1.54		0.42	0	12	9	17	5	sw.	G. Frederick Clark.
Seven Mile Creek	....do			56.1[f]		76	21	35	4	29[f]	3.36		0.82	0	12	9[f]	12[f]	4[f]	w.	U. S. Forest Service.
Sheridan	Sheridan	3,790	17	65.2	− 1.6	93	25	43	15	41	4.42	+ 3.02	1.36	0	11	6	12	13	nw.	U. S. Weather Bureau.
Shoshone Dam	Park	5,385	6	65.6		94	28	43	14	36	2.47		0.65	0	6	9	12	10	e.	U. S. Reclamation Service.
Soldiers Home	Johnson	4,635	20																	Joel C. Smiley.
South Pass City	Fremont	7,873	10	55.5		79	28	30	6	43	0.57		0.17	0	6	9	8	14	sw.	John Sherlock.
Sundance	Crook			65.2		90	26	42	10	38	1.60		0.35	0	6	14	14	3	e.	Geo. W. Ashdown.
Thermopolis	Fremont	4,350	8	68.9		95	25†	44	10	47	1.65		0.80	0	10	20	8	3	sw.	A. L. Duhig.
Thornton	Weston			69.4		92	26	47	6	40	2.24		0.35	0	10	6	17	8	se.	Geo. H. Ferguson.
Ulm	Sheridan										1.85		0.60	0	9	21	7	3	nw.	W. H. Coleman.
Verona	....do	4,360	3								1.93		0.50	0	9	6	23	2	se.	O. A. Roode.
Wheatland	Laramie			67.6		88	29	49	15	33	4.58		0.93	0	21	15	7	9	w.	A. de F. Snively.
Wiants Ranch	Carbon	7,400	2								2.42		0.72	0	12	2	28	1	sw.	Ira G. Wiant.
Wiley	Park	5,375	3																	Thos. S. Harrison.
Woodrock	Sheridan										3.09		0.69	0	16	9	15	7	sw.	U. S. Forest Service.
Worland	Bighorn		1	68.4		97	25	46	10	46	0.95		0.44	0	9	12	6	3	nw.	Prof. B. C. Buffum.
Wyncote	Laramie	4,207	5	67.6		89	22†	46	15	38	6.24		1.09	0	11	15	13	3	e.	U. S. Reclamation Service.
Yellowstone Park	Yellowstone Park	6,200	24	56.8	− 4.7	83	28	33	9	39	2.37	+ 1.19	0.63	0	15	10	11	10	sw.	U. S. Weather Bureau.
Fairview Dome	....do	7,000	7	62.4		82	20†	27	9	52	4.13		1.22	0	14	10	10	11	sw.	U. S. Army.
Fountain	....do	7,220	6	45.8		80	27	16	10	59	1.70		1.70	0	6	19	0	12	w.	Do.
Gallatin	....do		1								1.60		0.50	0	5	12	10	9	n.	Do.
Grand Canyon	....do	7,900	5	52.0		80	25	27	10	47	3.93		1.00	0	13	9	18	4	sw.	Do.
Lake Yellowstone	....do	7,733	8	50.5		79	28	26	10	42	0.43		0.14	0	8	21	1	9	sw.	Do.
Norris	....do	7,575	8	50.8[e]		80	29	26	10†	44[e]	2.00		1.50	0	2	7[e]	11[e]	6[e]	w.	Do.
Riverside	....do	6,500	6	54.8		86	28†	27	9	54	1.25		0.26	0	11	12	0	19	w.	Do.
Sylvan Pass	....do	7,000	5	53.3		83	24	31	6†	48	4.37		1.12	0	8	11	0	20	w.	Do.
Thumb	....do	7,772	6	51.2		82	26	25	25	55	3.60		1.00	0	6	16	11	4	sw.	Do.
Tower Falls	....do	6,250	3	54.4		86	25	28	9	43	2.81		0.81	0	14	19	8	4	sw.	Do.
Upper Geyser Basin	....do	7,395	8	50.6		76	17	31	3	40	1.00		1.00	0	1	14	0	17	ne.	Do.
Montana.‡																				
Adel	Cascade	5,200	13	57.9	− 2.1	88	30	34	13	39	1.45	− 0.57	0.64	0	12	9	8	14	w.	Mrs. Bessie F. Burch.
Agricultural College	Gallatin	4,700	14	59.9	− 3.9	87	25	41	8†	38	1.91	+ 0.70	0.30	0	12	16	12	3	nw.	J. L. McGraw.
Augusta	Lewis and Clark	4,071	13	58.7	− 3.5	89	28†	34	14	49	1.40	− 0.49	0.32	0	5	18	7	6	w.	C. C. Covington.
Babb	Teton	4,461	5	54.1		80	30	31	14	44	4.44		0.79	0	13	1	21	9	sw.	U. S. Reclamation Service.
Badger Creek	....do	4,060		57.1[e]		83[e]	26	32[e]	15	46[e]	3.01		1.13	0	8	8[e]	9[e]	7[e]		Do.
Bald Butte	Lewis and Clark	6,500	2								3.72		1.09	0	12	10	12	9		M. W. Alderson.
Bigtimber	Sweet Grass	4,072	6	63.1		90	28	42	9	41	3.39		0.95	0	10	14	11	6		F. A. Severance.
Bigtimber Creek	....do		2								2.48		0.50	0	14	11	18	2	w.	T. J. Mjolaness.
Billings	Yellowstone	3,115	16	66.2	− 5.4	94	28	45	9†	47	3.39	+ 2.52	1.70	0	14	15	5	11		Dean J. Cole.
Blackleaf	Teton	4,260	4	56.6		83	29†	32	14†	40	1.30		0.33	0	7	13	11	7	nw.	Roy McNeal.
Boulder Nursery	Jefferson	4,920	16	57.9	− 4.5	88	25	34	9	46	1.70	+ 0.62	0.55	0	13	4	18	9		U. S. Forest Service.
Bowen	Beaverhead	6,060	5	51.9		82	29	25	6	49	1.64		0.95	0	10	15	7	9		B. B. Lawrence.
Bridger	Carbon	3,664	3	64.5		92	13†	41	9	47	0.91		0.23	0	9	7	11	13	n.	L. E. Gard.
Broadview	Yellowstone		5	64.2		93	28	41	2†	46	2.59		0.68	0	12	19	10	2	ne.	Thos. Hunt.
Busby	Rosebud		8	65.8		93	25	43	15	38	3.63		0.90	0	12	13	12	6	ne.	Rev. G. A. Linscheid.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Continued.																				
Busteed	Sweet Grass		4	62.0		91	28	30	16	42	2.62		0.74	0	13	10	18	3	nw.	T. H. Busteed.
Cabin Creek	Beaverhead		2								1.36		0.72	0	9	10	9	12	nw.	W. J. Crowell.
Canyon Ferry	Lewis and Clark	3,644	13	65.0	− 2.6	95	30	43	14	40	1.72	+ 0.29	0.59	0	9	18	8	5	nw.	A. C. Pratt.
Cascade	Cascade	3,361	7	62.7		91	28	40	9†	49	2.72		0.73	0	12	11	15	5	sw.	Dr. E. E. James.
Chessman Reservoir	Lewis and Clark	5,275	3	53.4		81	29	30	14	35	2.13		0.37	T.	12	14	4	13		C. D. Schmidt.
Chester	Hill	3,140	8	63.1		92	30	39	15†	43	0.94		0.16	0	8	10	8	13	sw.	E. D. Keith.
Chinook	Blaine	2,502	13	66.5[l]	− 3.2	93[l]	30	42[l]	18	45[l]	0.51	− 0.91	0.29	0	2	8[l]	9[l]	21[l]		T. O'Hanlon Co.
Clearcreek	do		6																	Cortez Sedgewick.
Clemons	Lewis and Clark	4,672	2								2.40		0.44	0	12	9	6	16	w.	Frank Eberl.
Clydepark	Park		1			91	25				1.43		0.34	0	7	14	10	7	w.	Frank Taylor.
Copper	Meagher		7								1.97		0.51	0	11	18	7	6	w.	Orville Harris.
Crow Agency	Rosebud	3,041	29	67.1	− 4.3	90	25†	43	8	40	3.96	+ 2.76	0.91	0	12	7	7	17	sw.	Ira R. Bamber.
Culbertson	Valley	1,927	9	64.8	− 4.9	91	13	39	18	41	4.49	+ 2.43	1.81	0	12	11	4	6	nw.	G. H. Coulter.
Cut Bank	Teton	3,700	13	60.1[f]	− 1.2	91[f]	30	35[f]	14	48[f]	2.58	+ 0.95	0.58	0	7	18[f]	4[f]	3[f]	w.	Chas. N. Thomas.
Denton	Fergus	3,500	3	63.0		91	30	39	14	39	2.19		1.00	0	10	14	10	7	nw.	T. J. Griesenauer.
Dillon	Beaverhead	5,147	14	61.3	− 3.2	89	27	33	2†	44	1.83	+ 0.73	0.82	0	11	12	6	13	sw.	J. E. Monroe.
Dirty Creek	Meagher	6,000	3								1.20		0.30	0	13	14	8	9	w.	Lewis Cameron.
Dry Creek	Broadwater	5,500	2								2.69		0.70	0	10	8	9	14	sw.	J. C. Stuart.
Dry Wolf Camp	Cascade	6,000	3								3.84		1.80	0	12	9	13	9	sw.	Mrs. Harriet R. Eveleth.
Dunkirk	Teton	3,293									1.36		0.29	0	9	13	11	7	w.	B. C. Protzman.
East Gallatin River	Gallatin	6,000	3								2.02		0.41	0	12	13	11	7	w.	John Eberhart.
Eklalaka	Custer		11	67.8	− 1.6	97	25	36	15	45	1.56	+ 0.05	0.48	0	9	21	6	4	w.	William Freese.
Elkhorn	Jefferson	6,576	3								2.21		0.46	0	13	7	14	10	w.	James Heagan.
Fallon	Custer	2,208	7	68.4		96	25	40	15	42	2.82		0.90	0	9	18	9	4	w.	Mrs. A. C. Gifford.
Fish Creek	Silver Bow	8,500	2	51.4		74	26†	32	8†	32	2.04		0.62	0	8	19	5	7	w.	O. B. Tilton.
Flathead Creek	Gallatin	6,000	1	59.4		96[a]	25	35[a]	8†	51	2.94		0.60	0	15	17	5	9	nw.	Alta Williams.
Forsyth	Rosebud	2,514	5	69.2		103	28	47	18	49	2.90		1.08	0	6	11	4	16	w.	H. Mackenzie.
Fort Benton	Chouteau	2,630	32	64.1	− 4.2	87	25	43	10	37	1.25	− 0.35	0.40	0	4	22	7	2	sw.	Jere Sullivan.
Fort Shaw	Cascade	3,500	23	61.6	− 3.8	90	28	35	1†	42	1.01	− 0.11	0.27	0	12	8	14	9	sw.	U. S. Reclamation Service.
Fort Harrison	Lewis and Clark	4,004	8	63.9		95	29	41	13	43						19	11	1	w.	Post Hospital.
Foster	Yellowstone		2	67.4		94	28	46	15	44	3.70		1.92	0	9	18[a]	5[a]	7[a]	ne.	E. K. Bowman.
Garneill	Fergus	5,500	3	58.4		82	26†	34	6†	43	4.53		0.90	0	18	5[a]	4[a]	21[a]		Thos. E. Scally.
Glasgow	Valley	2,092	15	65.4	− 4.9	89	10	38	15	42	2.66	+ 1.77	0.67	0	8	14	14	3	w.	W. M. Leonard.
Glendive	Dawson	2,069	21	68.0	− 4.7	94	25	38	15	42	2.07	+ 0.34	0.48	0	8	11	17	3	n.	E. C. Leonard.
Goldbutte	Hill		4	62.6		98	25	35	14†	47	1.60		0.50	0	9	13	16	2	nw.	Joseph Berthelote.
Graham	Custer		6	65.5[a]				38[a]	15	46[a]	0.83		0.25	0	8	13[a]	3[a]	1[a]		J. S. Rue.
Grayling	Gallatin	6,700	6	52.0		82	29	27	9†	48	4.14		1.32	0	14	9	9	13	sw.	T. Kerzenmacher.
Great Falls	Cascade	3,350	20	64.4	− 3.9	88	30	41	14	37	2.07	+ 0.48	0.61	0	12	10	20	1	sw.	Robert Deardorf.
Halfway House	Broadwater	6,000	2								1.84		0.42	0	10	12	11	8	sw.	Gordon Deans.
Harlowton	Meagher	4,165	4	60.6		90	29†	36	13	44	1.02		0.40	0	5	6	12	13	w.	Joseph Muir.
Havre	Hill	2,505	32	63.6	− 4.5	90	30	40	18	40	0.97	− 0.95	0.33	0	11	14	13	4	nw.	U. S. Weather Bureau.
Helena	Lewis and Clark	4,110	32	63.2	− 3.4	90	30	40	14	42	0.95	− 0.12	0.38	0	10	9	7	15	sw.	Do.
Highwood	Chouteau		5								3.20		0.73	0	14	15	7	9	ne.	W. S. McCord.
Huntley	Yellowstone	3,014	6	67.0		95	28	45	14†	44	2.31		0.62	0	9	18	10	3	e.	U. S. Reclamation Service.
Jones Canyon	Gallatin	6,800	3								2.96		0.70	0	15	5	11	15	sw.	James McCune.
Knobles Ranch	Hill		1								3.62		1.05	T.	14	14	6	11	sw.	F. H. Knoble.
Lewistown	Fergus	4,010	14	59.6	− 4.5	89	26	38	8†	44	4.12	+ 1.68	2.25	0	9	11	15	5	nw.	W. W. Watson.
Lonetree	Chouteau	3,280	6	62.4		93	30	41	14	40	2.43		0.68	0	9	18	4	9	w.	E. Wilson.
Lytle	Teton			61.9		89	29†	39	14	39	1.24		0.26	0	15	18	8	5	nw.	J. F. Fait.
Malta	Valley	2,240	5	63.9		88	13†	37	24	46	5.26		2.27	0	8				w.	U. S. Reclamation Service.
Medicine Lake	do		1	62.6		86	13†	35	5	42	2.34		0.90	0	10	21	8	2	nw.	J. S. Collier.
Melstone	Musselshell	2,903	2			92	18†				2.90		1.11	0	6	10[p]	1[p]	4[p]		A. F. Warner.
Mildred	Custer		3								3.16		1.72	0	10	11	20	0	sw.	Leon B. Clark.
Miles City	do	2,371	20	69.6	− 3.3	98	30	44	15	40	3.55	+ 2.18	1.78	0	11	15	13	3	ne.	U. S. Weather Bureau.
Norris	Madison	4,845	5	64.8		92	28	44	8	36	0.60		0.21	0	9	11	7	13	s.	Madison River Power Co.
Nye	Sweet Grass		3			85	27				3.93		1.18	0	12	13	6	12	sw.	F. L. Bryant.
Olsen Creek	Jefferson	6,345	3								2.60		0.64	0	12	16	6	9	w.	Robert Olsen.
Pinegrove	Musselshell										2.00		0.90	0	11	15	12	4		G. A. Woodcock.
Pipestone Pass	Jefferson	7,000	3								2.39		0.63	0	12	14	13	4	w.	Mrs. P. Keirmeyer.
Plevna	Custer	2,757		66.6		97	25	37	15	43	2.06		0.67	0	10	16	11	4	w.	C. C. Conser.
Poplar	Valley	2,020	26	66.2	− 5.1	91	29	41	17	41	4.37	+ 2.79	1.20	0	9	19	10	2	w.	H. M. Cosier.
Red Lodge	Carbon	5,548	12	57.8	− 4.0	84	25	35	9	42	1.50	+ 0.18	0.31	0	12	10	8	13	nw.	I. A. Draper.
Renova	Jefferson	4,383	13	61.4	− 4.0	90	25	36	9	46	1.24	+ 0.21	0.23	0	12	18	4	9	sw.	F. B. Elmer.
Ryegate	Musselshell	3,640	2	64.5		95	29	40	14	51	1.16		0.50	0	5				w.	H. Scherfenberg.
Savage	Dawson	2,050	6	66.8		92	13	40	15	42	3.27		1.15	0	12	16	14	1	w.	U. S. Reclamation Service.
Seville	Teton	3,980	3																	Do.
Shelby	do	3,276																		C. D. Kicher.
Sidney	Dawson		1	67.2		84	17	39	15	39	3.15		1.03	0	8	19[l]	2[l]	1[l]		Fred W. Arndt.
Spokane Ranch ‖	Lewis and Clark		1								2.00		0.39	0	12	9	17	5		O. E. Penwell.
Springbrook	Dawson		10	65.1	− 3.3	92	20†	36	15	44	2.92	+ 1.11	1.44	0	8	11	12	8	sw.	Mrs. H. L. Miller.
Stearns	Lewis and Clark	4,500	2								2.09		0.34	0	12	13	8	10	sw.	Estelle W. Estill.
Sunlit Farm	Blaine		1	59.6		85	30	36	18	41	1.21		0.45	0	9	12	13	6	w.	C. R. Noyes.
Sun River Canyon	Teton	4,650		56.0		87	29	33	18†	51	1.45		0.24	0	13	11	12	8	w.	U. S. Reclamation Service.
Trail Creek	Park	6,000	3								2.66		0.43	0	12	18	10	3	e.	A. Weidenbauer.
Utica	Fergus	5,000	17	59.2	− 5.6	88	29	36	3†	41	1.27	− 0.84	0.48	0	9	16	13	2	w.	P. W. Korell.
Valentine	do		5	64.8		92	30	36	17	46	2.08		0.74	0	9	18	7	6	w.	B. M. Bean.
Valier	Teton			59.6		88	30	35	14	39	2.70		0.50	0	12	25	3	3	w.	R. M. Templeton.
Virginia City	Madison	5,880	23	61.0	− 2.8	89	25†	36	9	38	2.12	+ 0.77	0.50	0	8	14	8	9	w.	W. R. Baker.
Wall Rock Mountain	Broadwater	5,600	3								3.20		0.89	0	12	10	14	7	nw.	B. L. Doig.
Warm Springs Creek	Madison	7,500	2								1.12		0.28	0	12	6	6	19	sw.	M. D. Lytle.
Wheaton	Musselshell			66.0		96	25	42	8	44	0.89		0.29	0	7	11	9	10	nw.	P. O. Balgord.
White Sulphur Springs	Meagher			59.5		86	29	35	14	37	2.08		0.90	0	10	4	22	5		P. R. Wild.
Whites Ranch	Custer										2.46		0.98	0	11	16	13	2	nw.	Glen A. White.
Wilder	Fergus		1	65.7		92	28	41	15	42	3.51		0.87	0	10	11	6	14	e.	J. Rogers.
Wolf Creek	Lewis and Clark	4,000	8	64.4		93	31	41	14	47	1.87		0.66	0	11	12	9	10	w.	A. J. Reed.
Woodville	Jefferson	6,376	3								1.43		0.28	0	12	7	18	6	sw.	Anna C. Kinman.
North Dakota.																				
Aplin	Oliver		6	67.2		94	26	32	15	49	0.49		0.24	0	3	16	10	5	nw.	J. C. Hagelberger.
Arnegard	McKenzie			66.8[a]		103[a]	22	37[a]	14	38[a]	2.33		0.63	0	10					A. B. Waterman.
Ashley	McIntosh	2,001	17	69.0	+ 0.7	88	22†	40	15	32	2.04	− 0.45	0.46	0	9	19	10	2	nw.	R. C. Miles.
Beach	Billings	2,576	6	64.6		94	26	34	15	47	3.19		1.12	0	9	14	10	7	nw.	D. J. Steiner.
Belfield	Stark	2,583	1								4.40		1.60	0	8	10	17	4	nw.	W. F. Goblus.
Berthold Agency	McLean	2,082	16	66.0	− 3.4	96	26	32	15	46	2.59	+ 0.51	0.89	0	9	11	17	3	nw.	C. L. Hall.
Bismarck	Burleigh	1,674	38	69.0	− 1.2	92	22	39	15	37	3.18	+ 1.04	0.88	0	11	14	14	3	nw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota—Contd.																				
Bowman	Bowman																			W. R. Workman.
Broncho	Mercer		5																	E. M. Walker.
Buford	Williams	1,944	7	66.2		90	13	41	18	39	3.08		1.01	0	10	13	10	8	nw.	Maurice Funk.
Carson	Morton			68.4		106	11	31	15	56	1.53		0.54	0	8	23	6	2		D. J. Basquin.
Dickinson	Stark	2,543	20	65.6	− 2.4	91	25	34	15	42	3.80	+ 1.62	1.50	0	11	12	14	5	nw.	L. R. Waldron.
Edgeley	Lamoure	1,468	11	67.6	− 0.5	90	1†	40	15	37	5.70	+ 2.86	1.70	0	8	9	10	12	nw.	O. A. Thompson.
Energy	McLean																			T. L. Stanley.
Epping	Williams		5								5.14		1.91	0	11	17	12	2	e.	M. E. Uggen.
Fullerton	Dickey	1,439	14	67.8	− 6.3	90	1†	39	15	34	7.10	+ 3.98	2.56	0	9	20	8	3	nw.	F. O. Alin.
Garrison	McLean	1,901	3	66.4	− 1.4	99	22	34	15	43	2.31	− 0.17	0.75	0	7	7	19	5	nw.	G. L. Robinson.
Grinnell	Mountrail																			F. W. Hannah.
Haley	Bowman		4	68.8		94	25†	36	15	47	4.15		2.70	0	11	19	8	4	nw.	A. O. Lawrence.
Hettinger	Adams	2,253	6																	W. R. Lanxon.
Howard (near)	Divide	2,275	6	61.8		86	1†	38	15	39	2.93		0.68	0	11	4	17	10	nw.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	25	66.8	− 1.8	90	22	36	15	34	3.93	+ 1.34	1.45	0	13	13	9	9	s.	Thos. Pettigrew.
Lamoine	Kidder		5	64.7		92	22	31	15	40	2.09		1.21	0	5	12	14	5	nw.	E. V. Virgin.
McHenry (near)	Eddy	1,509	3	64.9		95	22	36	15	45	3.17		0.87	0	8	9	14	8	nw.	John Knox.
Marmarth (near)	Bowman		5								2.10		0.90	0	12	12	14	5	nw.	S. P. Grane.
Marstonmoor	Stutsman		5	65.9[g]		94[m]	22	31[f]	15	41[m]	1.48		0.51	0	8	9	19	3	nw.	H. H. McCumber.
Medora	Billings	2,225	16	64.1	− 6.2	102	30	30	9†	61	2.79	+ 0.77	0.93	0	6	16	15	0	w.	J. W. Hesser.
Melville	Foster	1,590	15	68.4[d]	+ 1.5	98[d]	22	34[e]	15	39[e]	2.47	− 0.39	1.55	0	6				nw.	J. P. Kidder.
Mott	Hettinger		6	66.8		92	26†	33	14	46	2.22		1.02	0	9	9	12	10	ne.	O. H. Opland.
Napoleon	Logan	1,955	21	67.1	− 1.3	94	22	35	15	37	4.54	+ 2.02	0.95	0	12	15	5	11	s.	C. J. Hoof.
New England	Hettinger	2,400	17																	J. M. Connolly.
New Rockford	Eddy	1,531	3																	J. V. M. Sundberg.
New Salem	Morton	2,163	6	67.2		95	22	35	15	40	3.26		2.03	0	10	9	20	2	nw.	J. Christiansen.
Orange	Adams		6	67.2		94	25	31	15	44	2.64		1.07	0	9	14	17	0	nw.	J. E. Goforth.
Steele	Kidder	1,857	17								1.72	− 0.99	0.67	0	10	15	12	4	w.	H. S. Wood.
Washburn	McLean	1,731	9	65.1		92	1†	39	15	39	2.21		0.55	0	7	13	17	1	nw.	W. R. Peterson.
Williston	Williams	1,875	33	64.8	− 4.6	89	13	42	18	36	3.29	+ 1.26	1.15	0	13	9	13	9	se.	U. S. Weather Bureau.
South Dakota.																				
Aberdeen	Brown	1,300	22	70.6	− 0.4	93	7	41	15	42	3.81	+ 0.67	1.32	0	9	13	13	5	s.	D. G. Gallett.
Academy	Charles Mix		13	73.0	− 0.7	95	7†	43	15	41	6.26	+ 2.88	2.13	0	13	15	9	7	se.	I. T. Lothrop.
Alexandria	Hanson	1,352	23																	Albert Hill.
Ardmore	Fall River	3,557	3																	C., B. & Q. R. R. Co.
Armour	Douglas	1,521	16	72.1[d]	− 1.2	99[d]	7	40[d]	15	46[d]				0					s.	T. J. Markey.
Bellefourche	Butte	3,000	4	67.8		91	25†	38	15	42	1.76		0.40	0	7	8	12	11	se.	U. S. Reclamation Service.
Brookings	Brookings	1,636	23	70.2	− 0.7	92	7	39	15	39	2.52	+ 0.09	0.60	0	12	18	5	8	se.	Experiment Station.
Bryant	Hamlin	1,846									4.37		1.25	0	11	10	19	2	s.	J. W. Ault.
Camp Crook	Harding	3,000	20	67.8	− 1.8	97	25†	34	15	47	2.38	+ 0.66	0.70	0	12	20	8	3	nw.	U. S. Forest Service.
Canton	Lincoln	1,248	17	71.8	− 0.1	96	7	42	15	38	3.47	− 0.45	1.57	0	5	26	2	3	se.	John H. Holsey.
Cascade Springs	Fall River	3,422	4	69.9		93	13	42	15	47	3.37		0.68	0	11	17	9	5		Fred Noerenberg.
Castlewood	Hamlin	1,685	6	68.6		89	7†	35	15	42	4.63		1.92	0	15	9	8	14	sw.	M. N. Bradley.
Centerville	Turner	1,229	15	73.0		99	7	45	15	40	3.52	− 1.02	1.51	0	8	15	13	3	se.	Frank Williams.
Chamberlain	Brule	1,363	14	74.6	− 0.1	95	29	45	15	39	2.90	+ 0.28	1.20	0	7	20	4	7	se.	W. B. Van Horn.
Clark	Clark	1,779	18	67.4	− 2.3	87	1	38	15	39	6.93	+ 4.23	2.87	0	13	11	16	4	se.	O. H. La Craft.
Cottonwood	Stanley	2,414	4	73.8		97	13	37[b]	15	44[b]	2.42		1.33	0	8	18	12	1	se.	Experiment Station.
Custer	Custer	5,316									3.16		1.08	0	7	8	17	6	w.	R. P. Imes.
Davison	Perkins		3	68.0		90	25†	36	15	41	5.45		2.57	0	13	9	17	5	se.	P. A. Sattler.
Deadwood	Lawrence	4,535	3	65.0		89	26	36	15	40	3.10		0.65	0	9	19	11	1		R. E. Grimshaw.
Deerfield	Pennington	6,000	3								2.92		0.54	0	13	11	15	5	sw.	Frank E. Miller.
De Smet	Kingsbury	1,726	19	70.1[f]	− 0.3	91[f]	7	40[f]	15	39[f]	4.82	+ 2.34	1.35	0	8	20	8	3	se.	J. O. Purintun.
Dowling	Stanley	2,250	3	73.0		98	22	40	15	41	5.13		3.00	0	9	19	10	2	se.	M. P. Dowling.
Dumont	Lawrence	6,195	3								3.14		0.60	0	10	15	12	4	sw.	A. B. Wood.
Eagle Butte	Dewey	2,415		70.9[k]		95[k]	13	39[k]	15	40[k]	2.18		0.74	0	6					Dr. John F. Chandler.
Eales	Potter		1								2.47		0.62	0	10	17	9	5	se.	A. H. Peterson.
Edson	Meade		1								3.44		1.37	0	10					J. C. Stoner.
Elk Mountain	Custer	4,700	3								4.42		1.05	0	11	12	13	6	se.	James E. Blaine.
Ellingson	Perkins			67.3		93	25	34	14	45	3.91		2.40	0	12	9	20	2	se.	Carl G. Moen.
Englewood	Lawrence	5,723	3								4.80		1.50	0	12	12	17	2	s.	T. J. Cummins.
Eureka	McPherson	1,884	3	70.3		94	1†	35	15	39	2.19		0.72	0	13	14	16	1	nw.	Experiment Station.
Fairfax	Gregory		8	73.4		95	7†	40	15	41	5.88		3.10	0	9	21	10	0	se.	U. G. Stevenson.
Faulkton	Faulk	1,595	17	71.4	+ 0.8	95	7	39	15	38	2.71	+ 0.11	0.65	0	10	20	5	6	se.	Miss Belle Talcott.
Flandreau	Moody	1,565	22	70.3	+ 0.6	96	7	42	15	37	3.51	+ 0.64	0.93	0	12	19	5	7	s.	W. A. Harris.
Forestburg	Sanborn	1,231	20	72.3	+ 0.6	98	7	37	15	43	3.13	+ 0.33	0.71	0	9	17	10	4	se.	S. S. Judy.
Fort Meade	Meade	3,624	29	68.0	− 3.9	95	14	35	15	45	2.78	+ 0.51	0.90	0	7	13	9	9	w.	Post Hospital.
Frederick	Brown	1,371	3	68.2		95[b]	21	39[b]	15	43[b]	4.37		1.60	0	11	22	5	4	se.	J. E. Jeffers.
Greenmont	Lawrence	6,430	3								3.80		1.00	0	5	14	11	6	w.	H. C. Hoffbuhr.
Greenwood	Charles Mix		20	75.0	+ 0.3	100	8	42	15	40	4.53	+ 1.03	1.37	0	11	16	13	2	s.	T. C. Williamson.
Hardingrove	Stanley			72.6		104[a]	22	37[a]	15	43[b]	2.90		1.97	0	4	1	22	8	nw.	Mrs. Laura Sinclair.
Harveys Ranch	Lawrence	6,282	2								4.64		2.16	0	7	19	5	7	nw.	Jerome Harvey.
Hermosa	Custer	3,278	6	69.2[e]		94[e]	13	38[e]	14	37[e]	3.62		1.19	0	10	22	8	1		S. M. Booth.
Highmore	Hyde	1,890	16	72.9	− 0.1	96	29	35	15	42	1.44	− 1.11	0.38	0	8	17	10	4	s.	Experiment Station.
Hopewell	Stanley		2	73.5		101	22	43	15	43	2.88		0.73	0	8	11	13	7	s.	E. R. Myers.
Howard	Miner	1,564	20	69.7[b]	− 0.3	95[b]	13	34[b]	15	43[b]	2.85	− 0.25	0.72	0	13					J. J. Cox.
Howell	Hand		10	71.2	+ 0.8	99	29	35	15	45	1.73	− 0.65	0.37	0	11	14	14	3	se.	M. A. Shuster, jr.
Huron	Beadle	1,306	30	71.4	− 0.1	95	1	41	15	39	3.71	+ 0.77	0.81	0	12	13	11	7	s.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	15	70.2	− 0.4	95[a]	7	40[a]	15	44	3.50	+ 1.22	1.20	0	6	25	4	2	se.	J. B. Taylor.
Kadoka	Stanley	2,467	3	73.4		97	22	49[d]	15	40[d]	3.72		1.68	0	7	8	17	6	s.	Rev. D. S. Brown.
Kennebec	Lyman	1,689	19	74.0	+ 1.1	99	22	36	15	43	3.30	+ 1.27	1.45	0	7	24	7	0		R. C. Van Horn.
Kidder	Marshall	1,295	8	66.2[j]		87[j]	11	40[j]	15	44[j]				0						H. C. Schussler.
Kimball	Brule	1,788	23	72.4	− 0.4	94	7	41	15	44	3.86	+ 1.02	0.61	0	13	21	9	1	se.	G. D. Rose.
Lacreek	Bennett	2,700		71.4		98	29	40	15	35	3.82		1.04	0	8	15	13	3	s.	L. E. Baumgarten.
La Delle	Spink	1,400	15	70.8	− 0.8	94	7	38	15	35	6.35	+ 2.82	1.35	0	13	15	10	6	se.	E. L. Ebbert.
Lead	Lawrence	5,200	3	65.8		86	13	42	15	39	2.66		0.64	0	8	3	23	5	nw.	E. F. Irwin.
Manderson	Shannon		8																	W. A. Spencer.
Marion	Turner	1,447	11	71.6	− 0.4	94	3†	40	15	36	8.00	+ 4.50	2.41	0	10	6	23	2	se.	M. H. Dains.
Marston	Sully		4	72.0		102	22	36	15	44	2.40		0.60	0	9	10	19	2	se.	John S. Walker.
Mellette	Spink	1,300	17	71.0	− 0.5	96	4†	36	15	40	3.95	+ 1.21	1.60	0	13	18	10	3	se.	Frank A. Howe.
Menno	Hutchinson	1,325	15	74.4[d]	+ 1.9	99[d]	23	41[e]	14	51[e]	5.12	+ 1.56	1.65	0	8					J. S. Headley.
Milbank	Grant	1,148	21	68.8	− 0.2	90	7	41	15	37	5.58	+ 2.94	1.34	0	14	14	4	13	nw.	I. T. Patridge.
Mitchell	Davison	1,312	18	68.8	− 2.8	96	7	40	15	45	4.94	+ 1.73	1.82	0	8	15	10	6	s.	C. W. Downey.
Mobridge	Walworth		1	74.8		102	22	45	15	41	2.85		0.95	0	8	18	12	1	ne.	Thomas J. Morris.
Murdo	Lyman	2,300	4	73.1		96	22	41	15	40	4.13		0.85	0	7	15	10	6	e.	L. C. Bode.
Oelrichs	Fall River	3,339	20	71.0	− 1.0	99	29	40	15	47	5.24	+ 3.05	2.60	0	8	4	24	3	ne.	J. E. Strouse.
Onaka	Faulk	1,600									3.47		0.80	0	10	16	11	4	nw.	H. P. Camp.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Dakota—Contd.																				
Orman	Butte	2,920	6	70.2	.....	94	13†	41	15	43	3.72	.....	1.77	0	7	4	23	4	e.	U. S. Reclamation Service.
Ottumwa	Stanley	.....	4	72.2	.....	102a	22	33a	15	47a	1.08	.....	0.40	0	3	25	3	3	se.	J. W. Bretz.
Parkston	Hutchinson	1,400	.....	.....	.....	.....	.....	.....	.....	.....	5.15	.....	1.39	0	12	12	12	7	.....	W. C. Rempfer.
Pierre	Hughes	1,572	20	74.6	− 0.6	99	22	46	15	34	3.22	+ 0.87	1.30	0	9	10	16	5	se.	U. S. Weather Bureau.
Plankinton	Aurora	1,528	18	.....	.....	.....	.....	.....	.....	.....	5.52	+ 2.70	1.03	0	11	8	19	4	se.	W. G. Andrews.
Pollock	Campbell	.....	6	69.8	.....	95	1†	32	15	48	1.96	.....	0.75	0	8	12	13	6	se.	J. H. Jones.
Rapid City	Pennington	3,251	24	69.1	− 1.2	92	13	42	15	36	6.64	+ 4.09	3.05	0	16	12	11	8	w.	U. S. Weather Bureau.
Redfield	Spink	1,295	14	72.4	+ 2.3	98	8†	39	15	46	3.06	+ 0.14	1.21	0	11	24	3	4	se.	A. S. Hall.
Rochford	Pennington	5,228	2	.....	.....	.....	.....	.....	.....	.....	3.02	.....	0.69	0	12	7	20	4	w.	Mrs. M. E. Deffenbaugh.
Rosebud	Todd	2,600	18	71.8a	− 1.7	93a	13†	34a	15	44a	2.97	+ 0.36	0.71	0	13	8	18	5	se.	W. M. Ege.
Roslyn	Day	.....	6	67.4	.....	87	7	39	15	32	4.88	.....	1.01	0	12	15	13	3	s.	O. O. Floren.
Selby	Walworth	.....	4	71.8	.....	98	28	38	15	42	2.76	.....	1.19	0	8	11	19	1	nw.	Miss Gertrude Hall.
Sioux Falls	Minnehaha	1,400	21	71.4	− 0.4	98	7	44	15	38	7.65	+ 4.40	2.83	0	9	11	11	9	s.	J. H. Bechtold.
Sisseton	Roberts	1,202	6	68.8	.....	88	2†	50	15†	29	8.02	.....	2.70	0	8	17	0	14	s.	George Gray.
Sorum	Perkins	.....	1	68.0	.....	96	6	33	15	48	4.89	.....	1.15	0	11	10	19	2	nw.	M. S. Eberhart.
Spearfish	Lawrence	3,647	22	67.2	− 2.6	90	13†	41	15	43	2.15	+ 0.09	0.67	0	6	12	15	4	se.	A. E. Johnson.
Stephan	Hyde	1,840	8	71.6	.....	97a	22	36b	15	46a	1.21	.....	0.49	0	5	10	18	3	se.	Rev. A. Mattingly.
Tama	Meade	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. O. V. Hansell.
Timber Lake	Dewey	2,163	.....	72.6	.....	97	27	39	15	44	3.13	.....	1.27	0	5	25	6	0	nw.	R. T. Hallihan.
Tyndall	Bonhomme	1,418	15	72.3	− 1.9	96	7	43	15	42	5.79	+ 2.44	1.62	0	11	10	15	6	.....	F. F. Chladek.
Vale	Butte	2,765	4	70.4	.....	94a	13	38a	15	46a	3.27	.....	1.92	0	9	15	14	2	nw.	U. S. Reclamation Service.
Vermilion	Clay	1,222	11	75.3	+ 1.0	101	8	46	15†	41	3.15	− 1.39	1.66	0	9	22	6	3	s.	Prof. E. C. Perisho.
Waters Ranch	Lawrence	4,000	2	.....	.....	.....	.....	.....	.....	.....	2.26	.....	0.72	0	12	9	11	11	e.	George Waters.
Watertown	Codington	1,735	18	68.2	+ 0.8	89	7†	38	15	33	5.01	+ 1.89	1.48	0	14	9	18	4	se.	Robert Q. Wood.
Wentworth	Lake	.....	19	70.1	− 0.4	92	7	41	15	34	3.67	+ 0.78	0.85	0	12	20	9	2	s.	R. C. Zimmerman.
Wessington Springs	Jerauld	1,410	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. N. J. Dunham.
White Lake	Aurora	1,646	3	.....	.....	.....	.....	.....	.....	.....	5.26	.....	1.66	0	9	15	11	5	s.	Mrs. G. A. Rogers.
Winner	Tripp	2,500	.....	73.4	.....	97	7†	40	14	39	5.20	.....	1.13	0	12	6	14	11	se.	J. W. Barnum.
Yankton	Yankton	1,234	38	74.2	− 0.4	99	8	46	15	36	4.84	+ 1.32	1.92	0	11	13	12	6	se.	U. S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	11	71.1	+ 1.8	96	14	45	16	41	2.14	− 1.08	0.75	0	9	8	21	2	sw.	A. L. Doan.
Colorado.																				
Albion Lake	Boulder	10,500	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. R. Dungan.
Arriba	Lincoln	5,243	6	68.8	.....	92	8	44	5	41	2.93	.....	1.06	0	16	22	7	2	s.	C. A. Creel.
Auldhurst	Teller	8,500	2	.....	.....	.....	.....	.....	.....	.....	4.99	.....	1.01	0	14	3	24	4	s.	Mrs. Alice A. Auld.
Bennett (near)	Arapahoe	5,484	4	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.70	0	7	20	8	3	ne.	J. F. Egelhoff.
Boulder	Boulder	5,347	16	68.3	− 1.6	89	13	47	1†	37	3.25	+ 1.77	1.17	0	11	8	23	0	w.	Prof. J. A. Hunter.
Burlington	Kit Carson	4,160	9	72.6	.....	99	11	49	5	40	6.64	.....	1.95	0	15	4	25	2	se.	W. P. Davis.
Cassells	Park	8,445	2	.....	.....	.....	.....	.....	.....	.....	3.40	.....	0.90	0	14	12	17	2	w.	Harriet M. Cassell.
Castle Rock	Douglas	6,220	20	65.8	− 1.9	90	11	42	2†	43	3.47	+ 1.34	1.00	0	13	8	8	15	s.	Thos. P. Vaughan.
Cheesman	Jefferson	6,880	9	64.9	.....	86	11	41	6	44	4.55	.....	1.30	0	10	2	29	0	s.	J. G. Thornburg.
Cheyenne Wells	Cheyenne	4,279	20	72.6	− 1.0	99	8	48	5	39	3.20	− 0.93	1.12	0	8	23	6	2	se.	J. W. Adams.
Cope	Washington	.....	15	69.2	− 3.3	94	8†	47	8	47	4.14	+ 0.95	2.00	0	7	11	13	7	e.	Mrs. Dora M. Christopher.
Corona	Grand	11,660	5	45.7	.....	60	17†	26	5	26	4.54	.....	1.08	3.0	9	.....	.....	.....	w.	U. S. Weather Bureau.
Denver	Denver	5,272	40	69.2	− 2.6	92	8	46	5	34	2.90	+ 1.28	2.10	0	13	3	23	5	sw.	Do.
Edgewater	Jefferson	5,450	4	67.6	.....	91	8	41	5†	41	2.24	.....	0.95	0	9	9	18	4	.....	N. P. Levin, M. D.
Estes Pk. Fish Hatch	Larimer	8,000	3	.....	.....	.....	.....	.....	.....	.....	2.69	.....	0.60	0	16	1	12	18	w.	G. H. Thomson.
Fort Collins	do	4,985	33	65.8	− 2.7	89	8	43	2	43	2.93	+ 1.05	1.02	0	9	.....	.....	.....	nw.	Colorado Agri. College.
Fort Lupton	Weld	4,907	2	.....	.....	.....	.....	.....	.....	.....	1.77	.....	0.69	0	11	.....	.....	.....	.....	R. W. Benedict.
Fort Morgan	Morgan	4,319	14	70.0	− 3.1	96	8†	45	5	47	2.92	+ 0.92	1.15	0	8	5	1	25	ne.	Miss Della M. Scott.
Frances	Boulder	9,000	7	58.9	.....	86	22	36	4†	42	4.21	.....	1.08	0	18	1	29	1	w.	C. W. Barry.
Frys Ranch	Larimer	7,500	2	58.8	.....	83	16	35	4	43	3.19	.....	0.70	0	18	13	11	7	w.	Norman W. Fry.
Georgetown	Clear Creek	8,550	10	.....	.....	.....	.....	.....	.....	.....	2.59	+ 0.43	0.49	0	15	1	25	5	.....	H. L. Corbett.
Greeley	Weld	4,649	21	65.0	− 5.8	98	10	44	14	44	1.25	− 0.61	0.59	0	10	16	13	2	e.	Nelson Reynolds.
Grover (near)	do	5,076	8	66.6	.....	97	9	45	2†	43	1.48	.....	0.46	0	11	4	12	15	s.	D. M. Porter.
Hartsel	Park	8,892	3	.....	.....	.....	.....	.....	.....	.....	3.78	.....	0.76	0	14	3	7	21	nw.	Emily Kleinknecht.
Hawthorne	Boulder	6,000	2	.....	.....	.....	.....	.....	.....	.....	3.90	.....	2.56	0	9	11	16	4	.....	B. E. Chesebro.
Holyoke (near)	Phillips	3,745	16	67.3	− 5.1	96	19	40	4†	47	4.45	+ 2.11	1.25	0	12	15	6	10	se.	A. C. Cauble.
Idaho Springs	Clear Creek	7,543	12	61.2	− 1.6	83	10	41	2†	40	3.57	+ 0.81	0.82	0	16	3	26	2	w.	J. J. Willis.
Julesburg	Sedgwick	3,465	.....	.....	.....	.....	.....	.....	.....	.....	2.97	.....	1.20	0	8	21	8	2	sw.	Great Western Sugar Co
Keota	Weld	4,966	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. S. Griffin.
Kersey	do	4,571	.....	.....	.....	.....	.....	.....	.....	.....	3.45	.....	1.35	0	5	17	8	6	se.	Great Western Sugar Co.
Laporte	Larimer	5,053	21	.....	.....	.....	.....	.....	.....	.....	3.44	+ 1.66	1.00	0	8	.....	.....	.....	.....	P. A. Taft.
Leroy (near)	Logan	4,380	23	.....	.....	.....	.....	.....	.....	.....	1.84	− 0.25	0.56	0	10	.....	.....	.....	.....	Chas. Green.
Longmont	Boulder	4,950	11	67.4	− 2.9	92	10	42	4	39	2.74	+ 1.33	0.66	0	8	20	6	5	sw.	Great Western Sugar Co.
Longs Peak (near)	Larimer	8,600	17	52.0	− 2.2	75	21	31	4†	40	4.39	+ 1.52	0.90	0	18	1	26	4	.....	Enos A. Mills.
Lulu Pass	do	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. McCahan.
Merino	Logan	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.64	.....	0.43	0	6	15	14	2	.....	Great Western Sugar Co.
Moraine	Larimer	7,775	22	57.6	− 1.8	79	22	36	2†	40	2.71	+ 0.64	0.79	0	8	12	1	18	w.	Chas. A. Chapman.
Platte Canon	Jefferson	5,492	13	.....	.....	.....	.....	.....	.....	.....	1.16	− 0.89	0.47	0	7	.....	.....	.....	sw.	Denver Union Water Co.
St. Cloud	Larimer	7,750	9	.....	.....	.....	.....	.....	.....	.....	4.89	.....	1.03	0	17	3	17	11	nw.	Homer C. Pearson.
Sedwick	Sedgwich	3,539	4	70.7	.....	97	8†	40	1	50	2.79	.....	0.61	0	10	15	6	10	se.	Edwin Lewis, M. D.
Sill Mine	Clear Creek	11,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. F. Deininger.
Spicer (near)	Jackson	8,700	2	61.0	.....	86	22†	30	11	43	2.19	.....	0.52	0	9	6	15	10	sw.	Frank W. Murphy.
Sterling	Logan	3,892	3	71.0	.....	94	8	48	1	43	2.17	.....	0.53	0	11	8	6	17	se.	Great Western Sugar Co.
Waterdale	Larimer	5,206	9	68.7	.....	94	8	43	10	45	1.40	.....	0.56	0	3	.....	.....	.....	.....	P. H. Boothroyd.
Wray	Yuma	3,512	16	75.2	+ 1.1	99	11	53	6†	35	5.88	+ 3.54	2.57	0	8	11	17	3	se.	J. C. Tuomey.
Yuma	do	4,138	21	.....	.....	.....	.....	.....	.....	.....	4.86	+ 2.08	1.98	0	9	10	15	6	se.	Matthew Harr.
Nebraska.																				
Ainsworth	Brown	2,521	7	73.2	.....	95	28	56	10	36	3.90	.....	1.00	0	10	3	20	8	sw.	John M. Cotton.
Albion	Boone	1,747	16	75.2	+ 2.5	105	23	48	16	44b	2.81	− 0.35	1.16	0	10	9	2	20	s.	F. M. Weitzel.
Alliance	Boxbutte	3,968	20	69.2	− 2.4	91	29	39	15	37	3.45	+ 0.93	1.60	0	6	21	8	2	sw.	J. A. Keegan.
Alma	Harlan	1,939	17	76.2	+ 0.6	103	14	48	16	40	1.90	− 1.48	0.56	0	9	20	10	1	s.	W. A. Sharpnack.
Arcadia	Valley	2,186	14	.....	.....	.....	.....	.....	.....	.....	1.75	− 3.07	0.54	0	7	21	8	2	se.	J. L. Owen.
Arden	Wheeler	.....	2	.....	.....	.....	.....	.....	.....	.....	2.04	.....	0.75	0	8	20	8	3	se.	A. E. Johns.
Ashland	Saunders	1,100	29	78.8	+ 2.3	104	14	49	16	39	2.00	− 2.65	0.56	0	10	20	11	0	se.	Dr. A. S. V. Mansfelde.
Ashton	Sherman	2,061	20	.....	.....	.....	.....	.....	.....	.....	4.13	0.00	2.10	0	10	24	3	4	s.	F. Rein.
Atkinson	Holt	2,108	7	72.0	.....	96	8†	41	15	40d	3.39	.....	1.30	0	9	10	12	9	sw.	C. J. Wilson.
Auburn	Nemaha	1,051	22	77.8	+ 1.9	103	14†	53	16	39	1.18	− 3.35	0.85	0	7	21	9	1	s.	J. R. Huffmann.
Aurora	Hamilton	1,792	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C., B. & Q. R. R. Co.
Beatrice	Gage	1,235	23	80.2	+ 3.6	103	9	61	18†	34	2.17	− 2.43	1.49	0	6	20	3	8	se.	H. E. Palmer.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
Nebraska—Continued.																				
Beaver City	Furnas	2,147	21	78.4	+ 2.2	104	8†	51	16	40	1.82	− 2.04	0.56	0	7	19	9	3	se.	T. M. Davis.
Bellevue	Sarpy	1,210	31	78.0	.....	103	14	53	15	35	1.47	− 2.70	0.44	0	10	16	9	6	se.	A. A. Tyler.
Benkelman	Dundy	2,968	16	.....	.....	.....	.....	.....	.....	.....	5.73	+ 3.12	2.50	0	6	14	13	4	sw.	R. D. Druliner.
Bertrand	Phelps	2,515	4	.....	.....	.....	.....	.....	.....	.....	5.38	.....	2.27	0	6	23	7	1	se.	W. F. Dobbin.
Blair	Washington	1,122	17	77.4	+ 3.1	104	14	45	16	44	1.88	− 2.26	0.60	0	12	20	10	1	sw.	D. C. Van Deusen.
Bloomfield	Knox	.....	6	74.6	.....	101	8	44[d]	15	41[d]	4.00	.....	2.10	0	10	12	17	2	s.	Dr. L. C. Bleick.
Bradshaw	York	1,715	15	.....	.....	.....	.....	.....	.....	.....	3.00	− 1.95	1.45	0	7	24	6	1	.....	E. C. Roggy.
Bridgeport	Morrill	3,658	16	71.8[e]	+ 0.3	98	7	48	15	41[c]	3.15	+ 0.90	1.55	0	6	.....	.....	.....	se.	R. H. Willis.
Broken Bow	Custer	2,477	18	73.0	− 0.0	100	8	47	16	40	3.10	− 1.13	1.50	0	9	16	1	14	se.	C., B. & Q. R. R. Co.
Bruning	Thayer	1,583	1	.....	.....	.....	.....	.....	.....	.....	1.28	.....	0.24	0	9	22	7	2	sw.	Henry Middendolf.
Burge	Cherry	2,674	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Davis.
Butte	Boyd	.....	7	73.8	.....	96	8	40	15	39	4.72	.....	1.84	0	11	11	16	4	s.	W. Whitla.
Cairo	Hall	1,951	4	.....	.....	.....	.....	.....	.....	.....	3.90	.....	1.48	0	8	.....	.....	.....	.....	Elliott Harrison.
Callaway	Custer	2,555	20	74.8	+ 1.6	103	8	48	16	41	2.64	− 0.31	0.60	0	8	17	9	5	s.	J. H. Evans.
Cambridge	Furnas	2,258	6	77.0	.....	106	8	48	16	42	3.73	.....	1.27	0	10	17	13	1	se.	Chas. Jensen.
Columbus	Platte	1,442	19	75.6	+ 2.1	102	8†	45	16	40	2.06	− 1.72	0.92	0	9	13	14	4	se.	A. L. Rush.
Crete	Saline	1,368	30	79.5	+ 3.9	104	9	50	16	39	1.51	− 2.71	0.45	0	10	17	9	5	s.	Doane College.
Culbertson	Hitchcock	2,565	26	78.2	+ 1.9	104	11	51	18	37	3.25	+ 0.33	0.98	0	8	19	4	8	s.	Homer L. Nye.
Curly	Sioux	.....	4	67.2	.....	91	27	40	15	42[b]	3.11	.....	1.32	0	13	9	16	6	se.	A. E. Hann.
Curtis	Frontier	2,553	17	75.8	+ 0.3	98	9	52	6	38	4.34	+ 1.02	1.10	0	9	13	11	7	se.	Dr. S. R. Razee.
David City	Butler	1,619	23	77.2	+ 3.6	102	9	52	16	34	3.45	− 0.63	0.80	0	10	16	14	1	se.	S. Clingman.
Du Bois	Pawnee	1,074	7	.....	.....	.....	.....	.....	.....	.....	1.37	.....	0.47	0	6	19	11	1	s.	O. M. Backus.
Dumas	Garfield	.....	4	73.0	.....	103	23	39	15	45	2.72	.....	1.10	0	10	20	11	0	s.	Emile Raes.
Elm Creek	Buffalo	2,268	5	.....	.....	.....	.....	.....	.....	.....	1.77	.....	1.00	0	6	.....	.....	.....	.....	E. L. Sutton.
Elsie	Perkins	3,382	4	.....	.....	.....	.....	.....	.....	.....	3.82	.....	1.15	0	11	.....	.....	.....	.....	J. F. Brittain.
Ericson (near)	Wheeler	2,029	20	.....	.....	.....	.....	.....	.....	.....	2.60	− 0.69	0.82	0	9	13	12	6	s.	J. A. Bodyfield.
Ewing	Holt	1,888	20	74.8	.....	104	23	43	15	50	2.41	− 0.93	0.68	0	10	.....	.....	.....	.....	G. H. Benson.
Exeter	Fillmore	1,607	1	.....	.....	.....	.....	.....	.....	.....	2.37	.....	1.13	0	6	.....	.....	.....	.....	Frank Ainsworth.
Fairbury	Jefferson	1,316	38	79.6	+ 2.7	104	12	48	16	44	0.60	− 4.05	0.18	0	7	15	15	1	ne.	W. F. Cramb.
Fairmont	Fillmore	1,641	18	77.4	+ 2.6	106	14	50	16	42	1.26	− 2.79	0.46	0	6	17	14	0	s.	C., B. & Q. R. R. Co.
Falls City	Richardson	898	18	80.2	+ 2.9	102	14†	56	16	35	1.81	− 3.14	0.98	0	7	24	7	0	se.	Dr. J. C. Yutzy.
Ft. Robinson	Dawes	3,764	29	69.6	− 1.3	94	29	40	15	35	3.20	+ 1.12	1.20	0	9	18	6	7	s.	Post Surgeon.
Franklin	Franklin	1,820	19	77.3	+ 1.6	104	12	46	16	42	1.93	− 1.71	0.77	0	6	11	15	5	se.	A. R. Peck.
Fremont	Dodge	1,203	33	78.1	+ 3.1	104	14†	47	16	39	2.46	− 1.78	0.81	0	10	13	14	4	se.	Ernest Hahn.
Fullerton	Nance	1,629	11	76.2	.....	107	23	45	16	45	2.66	− 1.52	0.80	0	7	18	11	2	s.	Dr. E. W. Johnson.
Geneva	Fillmore	1,633	22	79.2	+ 3.4	105	14	45	16	47	0.94	− 2.96	0.34	0	5	20	11	0	se.	F. M. Flory.
Genoa	Nance	1,584	37	77.4	+ 2.5	104	23	46	16†	41	2.00	− 2.07	0.60	0	10	19	8	4	s.	F. W. Parsons.
Gordon	Sheridan	3,550	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. F. Williams.
Gosper	Gosper	.....	11	.....	.....	.....	.....	.....	.....	.....	2.64	− 0.75	0.99	0	6	19	9	3	se.	E. H. Stoll.
Gothenburg	Dawson	2,557	18	75.3	+ 0.9	103	8	45	16	45	2.34	− 0.51	1.33	0	8	11	12	8	se.	Dr. W. J. Bartholomew.
Grand Island	Hall	1,860	20	78.2	+ 2.8	104	8†	49	16	42	4.00	− 0.12	1.92	0	5	9	7	15	s.	E. A. Barnes.
Grant	Perkins	3,405	9	72.6	.....	95	8†	50	5†	40[a]	10.67	.....	4.83	0	7	8	19	4	se.	Cyrus Carver.
Greeley	Greeley	2,021	17	74.8	.....	102	8	48	16	42	2.09	− 1.55	0.40	0	11	19	11	1	se.	W. E. Morgan.
Guide Rock	Webster	1,646	12	.....	.....	.....	.....	.....	.....	.....	1.87	− 3.93	0.72	0	4	14	14	3	s.	J. S. Marsh.
Halsey	Thomas	2,695	10	74.0	.....	97	8	44	15	40	3.83	+ 0.04	1.42	0	8	7	13	11	ne.	U. S. Forest Service.
Hartington	Cedar	1,309	21	74.0	+ 1.1	104	8	41	16	50	3.11	− 0.23	1.55	0	9	3	24	4	se.	D. E. Ewing.
Harvard	Clay	1,812	22	80.6	+ 6.0	104	23	49	16	39	1.33	− 2.38	0.70	0	5	13	14	4	sw.	Bert Gregg.
Hastings	Adams	1,932	22	76.8	+ 1.4	104	23	49	16	40	2.49	− 1.28	0.90	0	6	25	5	1	se.	C., B. & Q. R. R. Co.
Hayes Center	Hayes	.....	19	74.4	.....	101	8†	53	13†	41	3.05	+ 0.40	0.85	0	11	21	8	2	se.	C. A. Ready.
Hay Springs	Sheridan	3,821	26	69.6	− 0.7	94	29	36	15	41	2.83	+ 0.19	0.90	0	10	7	21	3	s.	A. Kadlecek.
Hebron	Thayer	1,458	27	78.9	+ 2.8	102	9	47	16	41	1.86	− 2.54	0.88	0	8	.....	.....	.....	.....	Dr. C. M. Easton.
Hemingford	Boxbutte	4,256	3	.....	.....	.....	.....	.....	.....	.....	4.69	.....	1.40	0	10	.....	.....	.....	.....	A. S. Enyeart.
Hendley	Furnas	2,231	8	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.50	0	4	.....	.....	.....	.....	T. L. Jones.
Hershey	Lincoln	2,902	1	.....	.....	.....	.....	.....	.....	.....	3.68	.....	0.78	0	9	22	5	4	.....	G. F. Palmer.
Hillside	McPherson	3,484	3	71.8	.....	98	11	44	15†	45	5.76	.....	2.31	0	9	12	15	4	se.	Mrs. M. R. Lloyd.
Holdredge	Phelps	2,324	22	76.6	+ 0.2	105	15	54	15†	51	2.97	− 0.35	0.96	0	9	.....	.....	.....	se.	C., B. & Q. R. R. Co.
Hooper	Dodge	1,228	15	76.0	+ 1.4	105	14	43	16	43[b]	3.41	− 1.13	1.20	0	10	.....	.....	.....	se.	Dr. W. H. Heine.
Hull (near)	Banner	.....	2	.....	.....	.....	.....	.....	.....	.....	3.95	.....	2.02	0	7	11	7	13	w.	Mrs. W. P. Miller.
Imperial	Chase	3,278	23	73.0	− 1.5	98	8†	50	16	43	5.09	+ 2.16	2.25	0	10	5	17	9	se.	Robt. Malcolm.
Kearney	Buffalo	2,146	25	77.4	+ 1.6	103	14	49	16	40	4.55	+ 0.17	1.81	0	8	17	10	4	s.	City Engineer.
Kimball	Kimball	4,697	24	68.2	− 2.7	91	11	47	14	36	2.17	− 0.34	0.73	0	9	10	17	4	se.	F. J. Bellows.
Kirkwood	Rock	.....	17	72.0	− 0.7	96	8	40	15	41	5.71	+ 1.88	1.03	0	12	16	9	6	se.	Mrs. C. Arter.
Kowanda	Garden	.....	4	.....	.....	.....	.....	.....	.....	.....	3.80	.....	1.60	0	11	.....	.....	.....	.....	Geo. W. Hulse.
Lamar	Chase	.....	2	.....	.....	.....	.....	.....	.....	.....	6.03	.....	2.65	0	10	.....	.....	.....	se.	L. R. McGaughey.
Lexington	Dawson	2,385	23	76.0	+ 3.4	103	8	45	16	43	0.90	− 2.37	0.37	0	4	23	0	8	se.	Robt. Chadwick.
Lincoln	Lancaster	1,189	34	79.0	+ 2.6	104	9	50	16	38	2.18	− 1.65	0.56	0	10	11	15	5	s.	U. S. Weather Bureau.
Lodgepole	Cheyenne	3,820	16	71.2	+ 1.0	97	8	49	5	41	3.05	+ 0.59	0.82	0	10	10	16	5	se.	R. T. Kidney.
Loup City	Sherman	2,067	17	75.0	+ 1.4	102	8†	45	16	45	3.41	− 1.31	1.08	0	11	21	7	3	se.	Harriet Hayhurst.
Loyal	Custer	.....	4	.....	.....	.....	.....	.....	.....	.....	3.12	.....	1.30	0	4	18	4	9	s.	C. H. Cass.
McCook	Redwillow	2,506	18	76.6	− 0.9	103	24	51	16	39	2.29	− 0.69	0.70	0	6	23	6	2	s.	C. G. Coglizer.
McCool Junction	York	1,575	17	.....	.....	.....	.....	.....	.....	.....	2.41	− 2.06	1.48	0	5	.....	.....	.....	.....	L. L. Slagle.
Madison	Madison	1,585	18	76.5	+ 3.3	101	8†	43	16	42	3.33	− 0.03	1.43	0	7	18	10	3	se.	Dr. F. A. Long.
Marquette	Hamilton	1,830	33	.....	.....	.....	.....	.....	.....	.....	2.81	− 1.80	1.47	0	10	9	15	7	.....	John Ellis.
Mary	Brown	.....	2	.....	.....	.....	.....	.....	.....	.....	6.08	.....	1.54	0	11	19	8	4	se.	G. C. Stufft.
Mason City	Custer	2,257	11	.....	.....	.....	.....	.....	.....	.....	3.53	− 0.83	1.50	0	7	.....	.....	.....	.....	J. A. Amsberry.
Minatare	Scotts Bluff	3,825	3	.....	.....	.....	.....	.....	.....	.....	4.13	.....	1.00	0	9	19	8	4	nw.	A. Kennedy.
Minden	Kearney	2,169	35	77.2	+ 2.2	103	23	51	16	38	3.43	− 1.06	0.76	0	9	13	14	4	se.	Joel Hull.
Mitchell	Scotts Bluff	3,950	4	69.6	.....	90	8†	47	15	40	4.43	.....	1.27	0	11	12	14	5	se.	U. S. Reclamation Service.
Nebraska City	Otoe	941	37	79.7	+ 3.6	100	12†	58	15†	41	4.99	+ 1.28	2.07	0	9	24	7	0	s.	C., B. & Q. R. R. Co.
Nelson	Nuckolls	1,683	2	.....	.....	104	14	.....	.....	.....	1.84	.....	0.65	0	4	26	2	3	sw.	Mack I. Koser.
Norfolk	Madison	1,532	28	75.9	+ 1.4	102	8†	45	16	44	2.97	− 1.19	0.93	0	10	26	3	2	s.	Dr. P. H. Salter.
North Loup	Valley	1,961	24	76.8	+ 2.8	104	23	49	16	35	3.42	− 0.53	0.75	0	9	16	13	2	sw.	W. G. Rood.
North Platte	Lincoln	2,841	38	74.0	+ 0.1	99	8	51	18	36	4.01	+ 1.33	1.16	0	10	14	14	3	s.	U. S. Weather Bureau.
Oakdale	Antelope	1,722[a]	26	73.8	+ 0.6	101	8	46	16	41	3.21	− 0.45	1.18	0	8	11	16	4	s.	G. S. Clingman.
Omaha	Douglas	1,103	42	78.3	+ 1.8	102	14	56	16	34	1.78	− 2.55	0.94	0	12	12	15	4	s.	U. S. Weather Bureau.
Ord	Valley	2,062	17	.....	.....	.....	.....	.....	.....	.....	2.90	− 0.75	0.79	0	8	14	13	4	s.	Jas. Milford.
Orleans	Harlan	1,993	5	.....	.....	.....	.....	.....	.....	.....	2.62	.....	1.08	0	5	.....	.....	.....	.....	Jas. McGeachin.
Osceola	Polk	1,644	13	80.4	.....	103	14	50	16	42[d]	2.63	− 1.94	0.90	5	5	20	10	1	s.	G. T. Ray.
Palisade	Hitchcock	.....	3	.....	.....	.....	.....	.....	.....	.....	2.81	.....	1.45	0	5	.....	.....	.....	.....	E. E. Young.
Palmyra **	Otoe	1,142	20	78.6	+ 2.8	100	8†	60	16	.....	2.43	− 1.75	0.64	0	11	16	15	0	s.	Thos. Coles.
Pawnee City	Pawnee	1,175	16	79.2	.....	103	14	51	16	37	1.28	− 3.04	0.66	0	5	25	5	1	s.	F. A. Barton.
Paxton	Keith	3,060	6	.....	.....	.....	.....	.....	.....	.....	6.03	.....	2.60	11	11	22	6	3	s.	C. F. Coy.
Plymouth	Jefferson	1,419	8	78.7	.....	103	9	48	16	41	1.60	.....	0.65	0	5	17	10	4	s.	John Ruppel.
Purdum	Blaine	.....	12	72.8	+ 1.2	98	8	42	15	42	4.56	+ 0.93	1.25	0	11	15	12	4	se.	T. C. Jackson.
Ravenna	Buffalo	2,028	35	75.9	+ 1.9	103	8	45	16	45	2.16	− 2.01	1.01	0	11	16	13	2	s.	H. G. Smith.
Red Cloud	Webster	1,687	21	78.4	+ 1.6	102	8†	47	16	42	1.59	− 3.00	0.47	0	5	22	4	5	s.	Chas. S. Ludlow.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Continued.																				
St. Libory	Howard	1,887	18	.....	.....	.....	.....	.....	.....	.....	3.67	− 1.00	1.45	0	6	17	11	3	ne.	W. I. Meader.
St. Paul	....do	1,796	19	77.8	+ 2.5	104	23	47	16	41	2.49	− 2.10	1.43	0	10	21	9	1	se.	Paul Anderson.
Santee	Knox		25	75.2	− 0.3	100	8	45	15	39	5.30	+ 1.59	1.22	0	12	12	13	6	se.	Geo. MacGregor.
Sargent	Custer	2,339		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. L. Ferguson.
Schuyler	Colfax	1,357		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. Summe .
Scottsbluff	Scotts Bluff	3,888	6	71.2	.....	95	11	48	15	41	5.33	.....	2.11	0	12	15	14	2	se.	A. B. McCoskey.
Seward	Seward	1,435	21	76.9	+ 0.1	102	9	46	16	42	2.35	− 1.99	0.55	0	7	18	11	2	se.	C., B. & Q. R. R. Co.
Sidney	Cheyenne	4,090	20	.....	.....	.....	.....	.....	.....	.....	5.09	+ 2.70	1.32	0	11	18	12	1	se.	John P. Fischer.
Springfield	Sarpy	1,052	1	.....	.....	.....	.....	.....	.....	.....	3.29	.....	1.17	0	12	15	10	6	se.	L. A. Bates.
Springview	Keyapaha	.....	21	74.0	+ 0.6	95	7†	40	14	35	4.27	+ 1.14	1.40	0	6	9	13	9	se.	C. L. Phelps.
Stanton	Stanton	1,472	21	76.8	+ 3.8	103	14†	40	16	49	2.03	− 1.87	0.75	0	8	19	10	2	se.	Alfred Pont.
Stratton	Hitchcock	2,804	17	.....	.....	.....	.....	.....	.....	.....	2.61	+ 0.31	1.00	0	6	.....	.....	.....	.....	Miss Stella Vennum.
Superior	Nuckolls	1,574	29	.....	.....	.....	.....	.....	.....	.....	2.57	− 2.12	1.35	0	4	.....	.....	.....	.....	F. V. Bishop.
Syracuse	Otoe	1,059	21	79.0	+ 2.7	104	14	45	16	45	3.20	− 0.53	1.18	0	11	18	13	0	se.	W. N. Hunter.
Table Rock	Pawnee	1,023	24	.....	.....	.....	.....	.....	.....	.....	1.11	− 3.33	0.39	0	8	25	6	0	s.	E. D. Howe.
Tecumseh	Johnson	1,113		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. B. Thurber.
Tekamah	Burt	1,060	23	76.9	+ 1.8	105	14	44	16	35	2.87	− 1.49	1.00	0	11	16	12	3	se.	Dr. A. D. Nesbit.
University Farm	Lancaster		29	78.6	+ 3.1	103	9	47	16	41	2.68	− 1.36	0.81	0	9	18	11	2	.....	S. W. Perin.
Valentine	Cherry	2,613	24	72.3	− 0.9	95	29	40	15	39	2.07	− 1.33	0.92	0	8	18	11	2	ne.	U. S. Weather Bureau.
Wahoo	Saunders	1,187	10	.....	.....	.....	.....	.....	.....	.....	3.63	− 0.74	1.35	0	8	15	16	0	.....	W. T. Mauck.
Wakefield	Dixon	1,387	18	74.4	+ 1.5	104	14	41	16	47	3.12	− 0.12	1.18	0	9	19	8	4	s.	I. H. Weaver.
Walthill	Thurston		11	74.4	.....	102	14†	43	16	44	1.92	− 1.92	0.85	0	6	.....	.....	.....	.....	A. P. Coleman.
Watertown	Buffalo	2,299	7	.....	.....	.....	.....	.....	.....	.....	2.23	.....	0.93	0	7	15	15	1	s.	R. E. Swift.
Wauneta	Chase	2,935	15	.....	.....	.....	.....	.....	.....	.....	3.26	+ 0.47	0.95	0	7	.....	.....	.....	.....	C. D. Fuller.
Weeping Water	Cass	1,080	35	79.2	.....	106	14	44	16	48	3.03	− 0.81	0.72	0	13	19	4	8	s.	S. W. Orton.
Westpoint	Cuming	1,313	27	77.8	+ 2.9	106	14	48	16	39	3.85	− 0.06	1.25	0	8	23	7	1	s.	J. C. Elliott.
Wisner	....do	1,380	17	.....	.....	.....	.....	.....	.....	.....	3.05	− 1.01	0.75	0	7	27	3	1	.....	F. C. Evans.
York	York	1,633	24	78.6	+ 1.9	104	23	46	16	44	2.37	− 1.99	1.64	0	6	20	11	0	sw.	A. T. Giauque.
Iowa.																				
Afton	Union	1,212	18	75.6	+ 0.4	96	14	54	19	30	2.46	− 1.89	1.19	0	8	14	17	0	sw.	N. W. Rowell.
Allerton	Wayne		10	77.4	+ 4.8	101	23	52	19	32	1.38	− 3.19	0.45	0	11	27	3	1	sw.	Mrs. Geo. Shriver.
Alton	Sioux	1,305	7	73.7	.....	100	23	49	15†	35	3.24	.....	1.64	0	10	7	22	2	s.	W. S. Slagle.
Atlantic	Cass	1,164	21	76.7	+ 3.5	100	14	47	16	39	1.82	− 2.51	0.40	0	14	15	8	8	sw.	Thos. H. Whitney.
Audubon	Audubon	1,301	18	74.3	+ 2.2	97	9†	49	18	32	4.29	+ 0.37	1.40	0	13	12	9	10	sw.	Geo. E. Kellogg.
Bedford	Taylor		12	78.2	+ 4.8	101	14	55	29†	37	1.53	− 3.81	1.08	0	7	16	11	4	s.	E. E. Healy.
Centerville	Appanoose		2	78.0	.....	102	23	53	19	36	1.22	.....	0.55	0	6	29	0	2	s.	Gordon Peacock, jr.
Chariton	Lucas	1,042	17	74.2	+ 0.4	97	23	50	19	33	3.25	− 2.21	1.85	0	5	16	8	7	sw.	C. C. Burr.
Clarinda	Page	1,009	22	77.2	+ 1.7	103	14	52	16	40	2.24	− 2.46	0.97	0	7	16	13	2	ne.	A. S. Van Sandt.
Corning	Adams	1,117	20	76.6	+ 3.0	100	14†	51	16	40	2.58	− 1.77	1.05	0	6	18	13	0	sw.	Jerome Smith.
Corydon	Wayne	1,101	19	76.8	+ 2.0	100	14†	51	19	33	1.26	− 2.92	0.37	0	6	10	15	6	sw.	May C. Miller.
Council Bluffs	Pottawattamie		2	77.4	.....	101	9†	47	16	43	2.54	.....	0.86	0	12	8	13	10	se.	B. W. Crossley.
Creston	Union	1,312	7	74.7	.....	99	14	52	16	39	2.24	.....	1.00	0	10	13	9	9	sw.	O. J. Colby.
Cumberland	Cass		13	.....	.....	.....	.....	.....	.....	.....	1.57	− 3.87	0.46	0	9	24	5	2	sw.	J. H. Reppert.
Denison	Crawford	1,180	18	74.1	+ 1.4	99	14	44	16	38	4.12	+ 0.06	1.05	0	14	15	9	7	s.	W. C. Van Ness.
Elliott	Montgomery		7	77.4	.....	100	14	48	16	39	1.62	.....	0.85	0	4	17	13	1	s.	C. H. Westrope.
Greenfield	Adair		20	76.3	+ 2.4	101	14	51	16	35	1.17	− 3.53	0.38	0	7	11	20	0	sw.	R. B. Oldham.
Harlan	Shelby	1,182	13	74.4	+ 1.2	99	14	46	16	36	2.62	− 2.69	0.67	0	14	11	16	4	s.	C. A. Reynolds,
Inwood	Lyon	1,474	8	73.6	.....	98	7†	43	15	36	3.22	.....	1.56	0	8	18	10	3	se.	F. B. Hanson.
Lamoni	Decatur	1,120	5	76.8	.....	100	14	54	18	34	2.13	.....	0.78	0	7	25	0	6	sw.	T. J. Fitzpatrick.
Larrabee	Cherokee	1,266	22	73.8	+ 1.0	100	14†	44	16	41	4.30	− 0.07	1.38	0	9	18	11	2	se.	R. C. Carnahan.
Le Mars	Plymouth	1,224	16	72.8	+ 0.4	94	14	49	16	29	5.05	+ 0.58	1.80	0	10	12	16	3	se.	G. A. C. Clarke.
Lenox	Taylor	1,250	17	76.8	+ 3.0	98	14	54	16	35	1.73	− 3.21	0.78	0	6	27	4	0	s.	J. L. Hurley.
Leon	Decatur	1,120	10	78.3	+ 5.1	102	14	54	18	40	.....	.....	.....	0	.....	.....	.....	.....	s.	Morris Gardner.
Little Sioux	Harrison		7	76.8	.....	103	14	50	16	35	2.56	.....	0.64	0	9	20	9	2	se.	Geo. H. Gibson.
Logan	....do	928	45	76.4	+ 1.7	101	14†	46	16	38	2.61	− 2.58	0.70	0	11	16	13	2	se.	Glenn H. Stern.
Mount Ayr	Ringgold	1,236	19	77.9	+ 2.9	101	14	54	19	35	2.02	− 3.29	0.83	0	8	16	14	1	s.	Alex Maxwell.
Murray	Clarke		21	76.6	+ 2.5	99	14	52	19	33	2.10	− 2.75	1.00	0	10	5	25	1	s.	N. T. Ashley.
Northboro	Page			78.7	.....	102	23	53	16	34	2.02	.....	0.65	0	7	23	8	0	se.	J. N. Darby.
Odebolt	Sac		15	75.9	+ 1.4	101	14	45	16	43	3.18	− 1.46	1.04	0	8	22	6	3	.....	E. Starner.
Onawa	Monona	1,051	12	77.2	+ 2.2	101	14	50	16	35	2.74	− 2.93	1.12	0	12	20	9	2	s.	C. G. Perkins.
Pacific Junction	Mills	960	13	76.8	+ 2.6	102	4	46	16	41	2.96	− 2.17	0.58	0	13	8	23	0	s.	H. H. McCartney.
Rock Rapids	Lyon	1,358	13	72.6	+ 0.8	98	7	38	17	43	4.15	+ 1.28	1.30	0	7	16	10	5	s.	W. C. Wyckoff.
Sheldon	O'Brien	1,422	12	72.8	+ 0.7	98	7†	46	16	36	3.11	− 2.03	1.83	0	11	19	9	3	se.	Geo. Aupperle.
Sibley	Osceola	1,212	19	70.0	− 0.2	95	23	45	15	35	4.08	+ 0.11	2.04	0	14	17	9	5	se.	H. G. Doolittle.
Sioux Center	Sioux		12	72.6	+ 1.4	96	23	47	15†	36	3.78	− 0.93	1.60	0	10	17	10	4	se.	J. de Ruyter.
Sioux City	Woodbury	1,135	23	74.8	+ 0.6	100	23	52	15	39	3.68	+ 0.87	1.87	0	12	15	12	4	se.	U. S. Weater Bureau.
Spencer	Clay		2	72.8	.....	99	14	46	15	44	3.16	.....	1.55	0	9	.....	.....	.....	se.	S. Gillespie.
Thurman	Tremont		15	78.5	+ 3.1	102	9†	49	16	39	3.36	− 2.55	0.98	0	10	9	18	4	se.	C. R. Paul.
Washta	Cherokee	1,157	14	73.6	+ 3.0	98	23	50	31	35	4.63	+ 0.18	1.55	0	10	18	10	3	s.	H. L. Felter.
Kansas.																				
Abilene	Dickinson	1,157	17	.....	.....	.....	.....	.....	.....	.....	4.36	+ 0.33	2.40	0	7	12	15	4	s.	T. W. Sherman.
Agricultural College	Riley	1,100	54	80.7	+ 2.0	102	27	55	31	36	3.23	− 1.52	1.85	0	7	24	7	0	sw.	Prof. J. O. Hamilton.
Alton	Osborne	1,651	10	80.6	.....	105	9†	56	16	38	2.52	− 1.32	1.21	0	10	13	15	3	s.	H. A. Storer.
Atchison	Atchison	973	21	.....	.....	.....	.....	.....	.....	.....	3.79	− 1.16	1.03	0	8	.....	.....	.....	.....	Prof. E. M. Stahl.
Beloit	Mitchell	1,383	17	80.4	.....	103	9†	58	6	40	2.42	− 1.24	1.06	0	8	15	12	4	se.	F. A. Slack.
Blakeman	Rawlins	2,894	15	74.8	.....	102	8	51	5	40	2.58	− 0.83	0.67	0	11	14	13	4	se.	C. L. Henderson.
Blue Rapids	Marshall	1,105	6	.....	.....	.....	.....	.....	.....	.....	2.83	.....	1.01	0	8	17	3	11	.....	M. Norton.
Centralia	Nemaha	1,256	3	79.6	.....	101	23	54	31	34	2.25	.....	0.84	0	8	24	5	2	se.	N. S. Hazen.
Chapman	Dickinson	1,113	8	80.5	.....	103	12†	52	2	42	4.38	.....	2.00	0	5	20	7	4	.....	E. F. Halbert.
Clay Center	Clay	1,203	11	82.2	.....	106	9†	58	31	42	1.78	− 2.00	1.25	0	4	12	7	12	sw.	O. L. Slade.
Colby	Thomas	3,138	21	76.0	+ 0.6	104	8	54	5	34	3.29	+ 0.72	1.61	0	12	18	11	2	se.	G. H. Kinkel.
Concordia	Cloud	1,398	28	80.4	+ 2.3	103	9†	60	15	37	1.33	− 2.29	0.45	0	11	10	17	4	s.	U. S. Weather Bureau.
Densmore	Norton	2,200	3	79.3	.....	104	12†	56	16	38	1.85	.....	1.42	0	4	2	20	9	se.	J. J. Griffith.
Dresden	Decatur	2,731	18	76.0	+ 1.2	102	8†	54	16	41	3.29	− 0.60	1.05	0	8	17	3	11	se.	Jacob Bock.
Ellsworth	Ellsworth	1,537	8	79.6	.....	105	12†	56	6†	42	3.14	.....	0.77	0	9	10	16	5	s.	Geo. Seitz.
Emmett	Pottawatomie	1,024		.....	.....	.....	.....	.....	.....	.....	3.10	.....	0.70	0	8	18	11	2	s.	C. O. Ball.
Enterprise	Dickinson	1,144	10	82.4	.....	106	24	59	19	40	3.65	− 0.38	2.30	0	6	21	8	2	s.	J. R. Clark.
Eskridge	Wabaunsee	1,412	6	78.8	.....	102	24	55	17	34	3.56	.....	2.03	0	8	22	9	0	s.	Geo. D. West.
Farnsworth	Lane	2,850	11	76.6	+ 0.6	100	12†	50	16	39	2.53	− 0.70	1.13	0	12	26	3	2	s.	C. M. Jennison.
Fort Scott	Bourbon	857	37	80.5	+ 2.8	98	24	58	6	31	2.83	− 1.51	1.82	0	9	20	1	10	sw.	E. A. Shaver.
Frankfort	Marshall	1,146	18	80.8	+ 2.6	104	14†	51	31	40	1.42	− 3.40	0.37	0	8	15	14	2	s.	W.W.Watson.
Garnett	Anderson	950	6	80.5	.....	104	24	59	30	34	5.69	.....	4.14	0	8	15	16	0	s.	D. D. Judy.
Goodland	Sherman	3,687	5	74.1	.....	101	8	51	5	41	5.58	.....	1.43	0	12	15	8	8	s.	C. C. Calvert.
Gove	Gove	2,750	23	.....	.....	.....	.....	.....	.....	.....	3.15	− 0.50	0.75	0	8	.....	.....	.....	.....	Jesse Royer.
Hanover	Washington	1,225	15	81.6	.....	104	9	52	19	45	0.92	− 3.21	0.32	0	8	23	7	1	se.	A. Jaedicke, jr.

TABLE 1.—*Climatological data for July, 1912. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kansas—Continued.																			
Harrison	Jewell	1,804	11	79.0	+ 3.3	103	14	49	16	41	2.18	− 2.35	0.92	0	5	22	7	2	s.	Mahlon Tegley.
Hays	Ellis	2,000	44	79.8	+ 3.0	103	11†	58	6†	38	0.88	− 2.64	0.40	0	7	11	9	11	sw.	G. K. Helder.
Hill City	Graham	2,134	4	79.6	.....	105	11	54	1†	40	1.07	.....	0.46	0	7	18	11	2	s.	C. A. G. Inlow.
Horton	Brown	1,188	23	78.1	+ 1.6	99	9†	59	19	34	3.69	− 0.70	1.08	0	10	16	5	10	s.	Mrs. S. C. Belden.
Hoxie	Sheridan	2,700	14	77.4	+ 0.4	102	23	54	15	34	4.81	+ 1.68	1.40	0	8	8	20	3	s.	I. L. Vinson.
Lawrence	Douglas	997	44	78.6	+ 1.2	98	23†	60	16†	32	3.10	− 1.67	1.00	0	9	13	17	1	sw.	Prof. H. P. Cady.
Leavenworth	Leavenworth	913	68	79.5	+ 1.5	99	24	59	15	29	4.64	+ 0.42	1.65	0	10	23	5	3	se.	Dr. A. F. Yohe.
Lebanon	Smith	1,812	14	78.6	+ 1.7	101	15†	54	17	43	3.05	− 1.28	1.35	0	3	20	9	2	s.	E. V. Bower.
Leoti	Wichita	3,300	9	75.6	.....	103	8	50	5	41	5.07	.....	2.85	0	11	25	3	3	s.	Fred Burnham.
Lincoln	Lincoln	1,374	....	81.6	.....	106	20	59	6†	38	3.55	.....	1.18	0	9	15	7	9	se.	R. W. Greene.
Lindsborg	McPherson	1,333	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Fredrickson.
McCracken	Rush	2,139	....	79.1	.....	100	11†	55	16	36	4.13	.....	2.58	0	7	16	13	2	sw.	E. D. Floyd.
Minneapolis	Ottawa	1,259	22	80.4	+ 1.5	102	12	59	6	35	2.84	− 0.23	1.59	0	7	23	4	4	s.	J. L. Steele.
Moran	Allen	1,098	16	80.8	+ 3.0	101	24	62	1	32	2.13	− 2.98	1.17	0	5	16	12	3	sw.	C. J. Norton.
Natoma	Osborne	1,834	3	.....	.....	.....	.....	.....	.....	.....	1.50	.....	0.60	0	3	26	4	1	se.	C. O. Hunt.
Norton	Norton	2,284	14	77.8	+ 3.3	105	23	53	16	37	2.04	− 1.61	0.76	0	9	9	20	2	se.	Sim Sleffel.
Oberlin	Decatur	2,530	25	.....	.....	.....	.....	.....	.....	.....	3.55	− 0.07	1.40	0	12	19	9	3	se.	I. K. Huber.
Oketo	Marshall	1,194	4	80.2	.....	103	14	54	16	38	0.41	.....	0.21	0	6	6	25	0	sw.	J. A. Church.
Olathe	Johnson	1,032	17	79.1	+ 2.1	99	24	56	31	31	4.32	− 1.16	2.35	0	12	13	17	1	se.	Dr. S. B. S. Wilson.
Ottawa	Franklin	926	18	78.8	+ 1.4	100	24	58	31	30	1.69	− 3.31	0.74	0	7	22	6	3	s.	W. J. Sheldon.
Phillipsburg	Phillips	1,939	21	80.0	+ 3.2	105	8†	53	16	38	1.86	− 1.02	0.65	0	10	16	15	0	se.	N. E. Bailey.
Plainville	Rooks	2,156	6	.....	.....	.....	.....	.....	.....	.....	0.61	.....	0.25	0	4	23	8	0	se.	F. D. Spellman.
Pleasanton	Linn	862	10	80.0	+ 2.3	101	24	60	19	31	3.06	− 1.11	1.02	0	4	18	11	2	sw.	B. F. Blaker.
Quenemo	Osage	941	....	.....	.....	.....	.....	.....	.....	.....	2.38	.....	0.96	0	5	18	12	1	sw.	R. L. Graham.
Republic	Republic	1,495	9	78.2	.....	101	14†	47	16	44	1.62	.....	0.53	0	7	.....	.....	.....	.....	J. W. Ambrose.
Russell	Russell	1,834	13	80.7	+ 2.9	102	12†	58	16	35	4.73	+ 1.72	4.22	0	4	17	9	5	s.	Robert Brebner.
Russell Springs	Logan	.....	2	77.4	.....	106	8	52	5	42	3.43	.....	1.50	0	11	22	8	1	se.	D. J. Hutto.
St. Francis	Cheyenne	3,288	4	74.5	.....	99	8†	51	5	41	6.65	.....	1.75	0	9	10	18	3	s.	J. E. Uplinger.
Salina	Saline	1,227	28	81.6	+ 2.0	106	12	61	6†	37	2.26	− 1.49	0.81	0	8	14	17	0	s.	Prof. A. W. Jones.
Scott	Scott	2,971	6	78.0	.....	103	23	53	16	44	3.30	.....	1.28	0	8	27	3	1	s.	J. B. Loughran.
Smith Center	Smith	1,800	2	80.0	.....	103	12	54	15†	37	1.23	.....	0.50	0	6	13	17	1	se.	W. H. Nelson.
Topeka	Shawnee	997	26	79.9	+ 2.3	98	12	62	19	29	2.31	− 2.54	0.80	0	10	14	15	2	s.	U. S. Weather Bureau.
Tribune	Greeley	3,612	13	.....	.....	.....	.....	.....	.....	.....	4.72	+ 2.22	2.00	0	12	12	13	6	s.	Charles E. Cassel.
Valley Falls	Jefferson	913	13	78.2	+ 2.4	100	14	55	31	33	3.28	− 1.27	1.60	0	8	24	7	0	s.	Miss Nettie Maxwell.
Vinland	Douglas	880	3	.....	.....	.....	.....	.....	.....	.....	3.93	.....	1.78	0	7	.....	.....	.....	.....	A. Schick.
Wakeeney	Trego	2,456	29	78.6	+ 1.5	102	11†	55	15	39	1.84	− 1.63	0.61	0	7	21	7	3	s.	A. S. Peacock.
Wallace	Wallace	3,303	42	75.8	+ 1.3	103	8	51	5	40	2.61	− 0.73	1.44	0	9	2	29	0	se.	M. T. Griggs.
Wamego	Pottawatomie	1,002	19	.....	.....	.....	.....	.....	.....	.....	3.55	− 1.59	1.25	0	8	15	10	6	sw.	M. L. Stone.
Missouri.																			
Amoret	Bates	850	4	80.0	.....	102	24	60	1	33	2.58	.....	1.20*	0	4	19*	5*	6*	sw.	Darby Fruit Farm.
Appleton City	St. Clair	853	22	80.0	+ 2.2	101	22	60	17	34	1.79	− 3.73	1.25	0	3	12	19	0	sw.	T. C. Brown.
Arlington	Phelps	695	17	.....	.....	.....	.....	.....	.....	.....	1.62	− 1.01	0.50	0	7	21	6	4	e.	G. V. Randolph.
Arthur	Vernon	767	20	78.0	+ 1.5	97	14	58	30	29	1.65	− 2.90	0.55	0	5	16	14	1	sw.	J. T. Armstrong.
Avalon	Livingston	.....	28	79.7	+ 2.8	101	24	55	19	34	1.37	− 3.29	0.55	0	4	28	3	0	sw.	F. G. Ashbaugh.
Bagnell	Miller	594	10	.....	.....	.....	.....	.....	.....	.....	2.33	− 2.39	0.62	0	8	22	4	5	e.	W. S. Brockman.
Bethany	Harrison	881	23	78.9	+ 7.2	96	14	57	21	35	1.86	− 2.84	0.84	0	4	27	4	0	se.	W. H. Skinner.
Bolivar	Polk	1,070	25	80.0	+ 3.8	99	9†	59	30	40	4.31	+ 0.41	2.75	0	5	24	7	0	s.	A. C. Fink.
Boonville	Cooper	600	37	.....	.....	.....	.....	.....	.....	.....	2.67	− 1.69	0.73	0	10	19	3	9	sw.	C. Randecker.
Brunswick	Chariton	652	34	78.6	+ 1.7	98	10†	58	19	36	1.84	− 2.76	0.71	0	7	15	8	8	sw.	Louis Benecke.
Clinton	Henry	800	26	80.8	.....	100	14	60	18†	35	0.90	− 3.69	0.70	0	3	18	13	0	sw.	A. E. Derwent, M. D.
Columbia	Boone	784	23	78.7	+ 1.3	96	24	60	19	28	1.88	− 1.77	1.20	0	8	12	12	7	s.	U. S. Weather Bureau.
Conception	Nodaway	982	29	79.0	+ 3.4	99	14	57	19	34	1.09	− 3.15	0.46	0	4	13	16	2	s.	Fr. Adhelm Hess.
Crocker	Pulaski	1,300	1	79.4	.....	98	5	60	27	36	2.53	.....	1.23	0	4	23	7	1	s.	Ira H. Stephens.
Eldon	Miller	.....	1	81.6	.....	101	24	60	19†	34	1.88	.....	0.75	0	4	26	5	0	s.	G. M. Tinsley, M. D.
Eldorado Springs	Cedar	750	7	79.6	.....	99	13†	59	19	38	2.10	.....	1.07	0	6	16	13	2	s.	Samuel Graham.
Fayette	Howard	725	30	78.3	+ 1.1	97	24	59	19	27	2.26	− 1.81	1.64	0	5	.....	.....	.....	.....	Prof. T. B. Smith.
Fulton	Callaway	818	22	77.6	+ 1.0	96	23†	56	31	34	1.53	− 3.14	0.93	0	10	22b	2b	5b	.....	Russel Johnston.
Glasgow	Howard	618	34	.....	.....	.....	.....	.....	.....	.....	1.82	− 2.01	1.10	0	6	22	3	6	s.	J. J. Shaughnessy.
Grant City	Worth	1,130	21	79.4	+ 4.2	104	14	56	18	35	1.36	− 3.64	0.55	0	4	25*	4*	1*	s.	W. H. Campbell.
Harrisonville	Cass	912	41	79.9	+ 2.5	101	24	60	19	32	1.95	− 2.14	0.87	0	11	14	5	12	sw.	A. J. Sharp.
Hazelhurst	Livingston	.....	20	.....	.....	.....	.....	.....	.....	.....	1.27	− 2.78	0.40	0	6	.....	.....	.....	.....	W. H. Baker.
Hermann	Gasconade	482	39	.....	.....	.....	.....	.....	.....	.....	4.19	+ 0.23	1.12	0	9	14	9	8	s.	C. T. Maushund.
Houston	Texas	1,280	21	76.5	+ 0.8	95	15	57	27	35	6.00	+ 1.30	1.75	0	9	4	25	2	s.	E. Dempsey.
Jefferson City	Cole	628	31	78.1	+ 0.2	100	24	58	19	32	2.42	− 1.46	0.55	0	9	22	0	9	s.	Miss Emma Swift.
Kansas City	Jackson	963	25	79.8	+ 2.2	96	24	61	16	23	3.30	− 1.54	1.75	0	12	14	15	2	s.	U. S. Weather Bureau.
Kidder	Caldwell	1,017	21	78.7	+ 2.3	98	23	55	19	30	3.26	− 1.04	1.75	0	7	21	9	1	sw.	J. F. Sharp.
Lamonte	Pettis	863	25	79.6	.....	100	24	53	31	32	1.56	− 3.14	0.61	0	4	23	5	3	s.	J. Ed. Hall.
Lebanon	Laclede	1,265	24	78.2	+ 1.6	95	11	61	19	32	3.50	− 1.18	1.20	0	6	16	12	3	s.	M. W. Serl.
Lexington	Lafayette	813	31	79.6	+ 3.1	100	24	58	19	30	2.50	− 2.60	0.90	0	8	22	1	8	s.	J. W. Keithley.
Liberty	Clay	864	25	79.7	+ 2.4	99	14	58	19†	29	5.60	+ 0.86	2.20	0	6	16*	13*	1*	sw.	W. C. Wilmott.
Lockwood	Dade	1,088	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. S. Crow.
Marshall	Saline	779	22	78.8	+ 2.1	97	24	57	19	29	5.09	+ 0.69	1.31	0	8	24	7	0	sw.	Prof. W. H. Black.
Maryville	Nodaway	1,160	23	79.0	+ 3.5	102	14	57	16†	34	1.17	− 4.39	0.75	0	6	20	2	9	s.	J. R. Brink.
Mount Vernon	Lawrence	1,480	36	79.4	+ 1.9	99	28	61	30	36	3.62	− 1.77	1.69	0	8	18	11	2	sw.	J. R. White & Son.
Nevada	Vernon	860	19	.....	.....	.....	.....	.....	.....	.....	2.73	− 1.31	0.76	0	9	20	9	2	sw.	C. Jewell.
Oregon	Holt	1,113	58	79.8	+ 4.6	100	14†	59	16	29	0.71	− 3.84	0.47	0	5	18	10	3	se.	Tom Curry.
Osceola	St. Clair	738	14	.....	.....	.....	.....	.....	.....	.....	1.36	− 3.64	0.87	0	4	13*	7*	8*	.....	W. E. Matthews.
Pattonsburg	Daviess	.....	3	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.14	0	2	23	1	7	sw.	Wm. Burton.
Rolla	Phelps	1,139	32	78.6	+ 2.0	95	14	60	15	34	4.18	+ 0.04	2.13	0	7	18	9	4	sw.	Prof. P. J. Wilkins.
St. Charles	St. Charles	614	35	78.4	+ 1.0	97	24	55	3	28	2.41	− 1.13	0.71	0	6	17	8	6	s.	L. C. Saeger.
St. Joseph	Buchanan	825	41	80.0	.....	98	23	59	31	31	1.66	− 2.32	0.91	0	8	12	16	3	s.	U. S. Weather Bureau.
St. Louis (1)	St. Louis City	567	41	78.8	− 0.3	96	24	62	16	26	5.29	+ 1.86	3.16	0	9	12	10	9	s.	Do.
St. Louis (2)	....do	578	1	79.7	.....	96	24	64	16†	26	6.22	.....	3.17	0	10	15	9	7	s.	St. Louis University.
Sublett	Adair	1,000	33	74.3	− 1.5	97	24	54	16†	38	3.14	− 1.25	1.00	0	6	8	21	2	sw.	Lewis Spriggs.
Tarkio	Atchison	.....	1	78.6	.....	101	14†	52	16	35	1.53	.....	0.90	0	10	19	12	0	s.	Prof. M. H. Rees.
Trenton	Grundy	812	18	79.3	+ 3.2	97	23	59	19	29	1.38	− 2.75	0.52	0	9	26	3	2	s.	W. H. Estes.
Unionville	Putnam	1,072	20	76.8	0	100	23	52	19	40	1.42	− 3.11	0.52	0	7	18	4	9	s.	Geo. W. Davis.
Warrensburg	Johnson	883	33	79.4	+ 1.0	99	24	58	19	27	3.28	− 0.96	1.70	0	7	20	10	1	sw.	A. F. Smithson.
Warrenton	Warren	865	23	78.6	+ 1.3	98	24	58	19	30	4.11	+ 0.10	1.14	0	9	15	8	8	s.	Prof. John H. Frick.
Warsaw	Benton	700	9	81.2	.....	101	24	56	18	33	0.91	.....	0.68	0	4	16	13	0	sw.	J. R. Smith, M. D.
Wheatland	Hickory	920	20	.....	.....	.....	.....	.....	.....	.....	3.70	− 0.48	2.30	0	2	17	14	0	s.	Mrs. S. A. Jackson.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ All temperature normals for Montana used in this table have been reduced to the 33-year period.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 6, Missouri Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Arapahoe	Bighorn				.32													.08	.45	.05									.25	.05	.30	1.50
Barnum	Powder																																
Basin	Bighorn	.07			.78									.04					.42	.11													1.42
Bennett	North Platte																																
Big Creek Station	do				.75						.01		.20							.75	1.25		T.			.07			.20	.18	.58	3.99
Burns	South Platte		.04	.20	.34								.14				.03			.62							.05	.24		.01	.06		1.73
Casper	North Platte																																
Centennial	do	1.00			.50	T.					T.	T.	T.		.30	T.				.25	T.		.12			T.	.45	.27		.06	.38	.97	4.30
Cheyenne	South Platte	.03	T.	.13	.20	.16			T.	T.	.02	.02	.27	.06	T.		.16	T.	.02	.05			.14				.39	T.		T.	.14	.03	1.82
Chugwater	North Platte	.42	.15	.05	.30	.30				T.			.04							.50	.08				T.		.17				.04	.04	2.09
Clark	Yellowstone	.09	T.	.03	.08	.03	.10		.02			.09		T.	.25				T.	.41	.02	.58								T.	.02	T.	1.72
Cody	Bighorn	.26	.08	.02	.03	T.	.07	.02				T.			.43					.41												.13	1.45
Crazy Creek	Yellowstone	.07		.43	.01	.26	.48			.03		.25		.03	.22					1.20	.03	.06								.01	.15	.06	3.29
Dome Lake	Tongue	.80		.20	.50	.20					.10		.50				.10	.50	.26		.10											.15	3.41
Douglas	North Platte																																
Dubois	Bighorn			.10	.33		.15													.43	.83											2.10
Eatons Ranch	Tongue	1.07	.13			.26	.18					.21								.75													2.60
Echeta	Powder	.10	.20									.10			.10					.50													1.04
Elk Mountain	North Platte	.17				.09						.07			.33						.34		.03						.05		.08	.15	.58	1.89
Encampment	do	T.	.02			.07			T.	T.	T.	.07	.10	.05		.32				.10	.18		T.			.05	.03			.20	.26	.60	2.05
Ervay	Powder							.04	T.			T.							.07	.27		T.	T.								.70	.10	1.18
Fort Laramie	North Platte	.62	.20	T.	.10	1.00	T.		T.				.06	T.	.25				T.	.05	1.05					.12		.50	T.		.10	.80	4.85
Foxpark	do																										T.						
Germania	Bighorn	.30	.11	.34		.24	.05	.02	.02					T.	.10				T.	.10	.36												1.64
Gillette	Powder																																
Horse Creek	Bighorn	.16	.01	T.	.10	.38	T.	.14												.40	.02										.38	1.00	2.59
Hunters Station	Powder	.43			.22			.05							.17			.04		.41	.19										.32	.15	1.98
Hyattville	Bighorn	.06		.02				.03							.02						.04												0.17
Jireh	Niobrara	.02	.28	.02	.02	.83		.23					.05		.09					.70	.01		.26							T.	.43		2.94
Kirtley	do	.18		.55	.18	.74			.20	.05			.57							.33	.12				.85						.06		3.83
Kirwin	Bighorn	.05	.05	.50	.82	.05	.17	.40	.07			T.		T.	.10	T.			T.	.37	T.	T.									.60	.27	3.45
Knowles	Cheyenne	.21	.50	.76					T.															.35				.29					2.11
Lagrange	North Platte	.38		.10	.42	.30				T.			T.						.05	.11	.43		.02					T.			.75	2.56
Lander	Bighorn	.12			.16		T.		T.	.01									.04	.08		.01						T.	T.		T.	.18	.36	0.96
Laramie	North Platte																																
Leo	do																																
Lolabama Ranch	Yellowstone	.15		.14	.05		.03					.05							.40	.70	.90	.30									.05	.03	2.80
Lovell	Bighorn																																
Lusk	Niobrara				1.05								.15						.19	.67			.12									.15	2.33
Manville	do	.38	.01	.04		1.20		.15	.06			.02			.03					.67	.04		.04					T.		.30	.21	.04	3.19
Moorcroft	Cheyenne	.20	.03	.23	.17	.02				.20				.02			.13			.01	.15	.13	.05				.02	.15	.03				1.54
Moore	North Platte																																
Newcastle	Cheyenne	.31	.29	.74	.05	.32		.22	T.	.26					.05			.55			.97		T.	T.				T.	T.	.06	T.		3.82
Pathfinder	North Platte	.05			.16	.40		.04	T.				.03	T.						.59	.06		.34	.01			.10		T.	.07	.05	1.90
Pinebluff	South Platte	.92	T.	.09	.22	1.07	.04			T.	.27	.04	T.	.54						.01	.10		.60		T.		.02		.03	.32		.41	.04	4.72
Pine Ridge	Cheyenne	.15	.34	.20			.02		.14						.08					.07		.13	.08	.23						.08				1.52
Powell	Bighorn	.14	.06	.11		.02		.02					.01		.14						.17	.22												0.89
Rawlins	North Platte				T.	.09							T.	T.	.06					.18	.40	.06		.02			.04	T.	T.		.01	.45	.15	1.46
Riverton	Bighorn																																
Rockypoint	Powder	.15	.35	.64			T.			T.			.18		.12			.02	T.	.05	.40		.18				.12		.15		.29	.24	2.36
Saratoga	North Platte	.02			.04	.02				T.				.04	.20					.42	.08		T.			T.	.15	.02	.02	T.			1.54
Seven Mile Creek	do	.33			.06		.10					T.	.10		.18				T.		.20		.16		.06			.26		.60	.49	.82	3.36
Sheridan	Tongue	.61	1.07	.33	.04	.07	.20	T.				.47	.01		.16				T.	1.21	.25										T.			4.42
Shoshone Dam	Bighorn	.40	.22	.10	.65	T.	T.	T.				T.		T.	.60					.50	T.	T.									T.	T.	T.	2.47
Soldiers Home	Powder																																
South Pass City	North Platte	.15	.02		.08	T.	T.	T.		.12									T.	.17			.03										0.57
Sundance	Cheyenne	.20		.30					.30			.15											.35										1.60
Thermopolis	Bighorn	.13	.05	.20	.80	.01		.03												.08	.15							.30			.07	.13	1.65
Thornton	Cheyenne	.31	.32	.25					.19									.29		.03	.35	T.	.03										2.24
Ulm	Tongue	.40	.09	.05		T.	.23		T.			.60		.10					.06	.29								.31	.16		.03		1.85
Verona	do	.40	.01	.07			.17					.28		.20					.12	.50	.18												1.93
Wheatland	North Platte	T.	.12	.03	.15	.42				.01			.09	.10	.28	.02			.01	.03	.85		.93	.01		.12	.01		.66	.02	.07	.70	4.58
Wiants Ranch	do	.21			.04	.24					T.	T.	.05	.02	.32						.72					T.	.18	.05	T.	.10	.20	.29	2.42
Wiley	Bighorn																																
Woodrock	Tongue		.30	.15	.45	.27	.18	.08	.06			T.	.12	.06	.40		T.	T.	.06	.60	.04									.05	.15	.12	3.09
Worland	Bighorn	.01	.09	.05	T.	.44		T.	.04					T.	.62				T.	.12	.03								.07				0.95
Wyncote	North Platte	.71		.14	.49	.71														.81	1.09	T.			.60		T.		.08		.13	.86	6.24
Yellowstone Park	Yellowstone	.03		.41		.07	T.	.03	.05			.02		.31					.03	.37	.10	.29	.04						T.	.01	.15	.46	2.37
Fairview Dome	do	.60		.70	.01	.10	.08	T.		.06		.18		T.	.25					1.22	.13	.33	.15							T.	.15	.17	4.13
Fountain	Madison		.10	.60								.10								.40											.20	.30	1.70
Gallatin	Gallatin		T.	.40		T.	T.	T.	T.		T.			T.	.50					.20	T.	.30	T.						T.	T.	T.	.20	1.60
Grand Canyon	Yellowstone	.06	T.	.19	.08	.08	.07					T.			.26					1.00	.38	.74	.07								.04	.06	.90	3.93
Lake Yellowstone	do	.01	.02				.01					.01								.14	.10											.05	.09	0.43
Norris	Madison																				1.50											.50	2.00
Riverside	do	.08		.07		.08						.18			.10					.26	.03	.09	.10								.06	.20	1.25
Sylvan Pass	Bighorn	.15			.34		.49		.19			T.		.68						1.12	.20											1.20	4.37
Thumb	Yellowstone			1.00	.50		1.00							.50						.35	.25												3.60
Tower Falls	do	.15		.28	.07	.13	.02			.01		.05			.27					.81	.11	.40	.15							T.	.08	.28	2.81
Up. Geyser Basin	Madison																			1.00													1.00
Montana.																																	
Adel	Missouri	.64	.08	.08		.05			.02		.02		.21	.06				T.		.05	.09	.10	.05	T.								T.	1.45
Agricultural College	Gallatin	T.	.04	.24	T.	.30	.28	.24					.02	.12					.08		.20	.12	.10		T.							.17	1.91
Augusta	Missouri	.30	.31															.18			.32		.29										1.40
Babb	St. Marys	.55	.35						.56	.02		.71		.30	.01			.08	.03		.72	.79				.31		.01					4.44
Badger Creek	Marias		.08						1.13			.21		.10				.24		.10	.95		.20										3.01
Bald Butte	Missouri	.74	.42	1.09		.04		.03				.02		.28	.10				.03		.39	.24	.33											3.72
Bigtimber	Yellowstone	.40		.25		.10	.12	.35				.12		.95						.50	.50										.10		3.39
Bigtimber Creek	do	.18	.45	.50		.06	.14	.10				.37		.17	.14				.08	.11	.08	.02										T.	2.48
Billings	do	1.70	.41	.04	.05	.12	.04	.10	.08		T.	T.	.07		.29				.01	.01	.43	T.	.04											3.39
Blackleaf	Missouri	.25	.32					T.	T.			.33		T.				T.	T.		.13	.22	.03		.02								1.30
Boulder Nursery	Jefferson	.55		.14		.16	T.	.29	.02	.02		T.		.02	.01						.04	.01	.18	.16								.10	1.70
Bowen	do	.95	.07			.25		.05				.05		.04						.01	.15	.05	.02											1.64
Bridger	Yellowstone	.05		.21	.11	.06						.09	.02		.23					.09	T.	.05												0.91
Broadview	do	.05	.40	.55		.17	.11	.68	.10			.03	.04		.34					.07		.05												2.59
Busby	do	.32	.38	.90	.59	.08	.04	.03	.19			T.	.30		.14				.36	T.	T.			.30										3.63
Busteed	do	.08		T.		.10	.74	.30	.11			.36	.14	.06	.40				T.	.05			.05	.21	.02									2.62
Cabin Creek	Jefferson		T.	.04			.03							.03	.04						.24		.20	.04	T.						.02	.72	1.36
Canyon Ferry	Missouri	.59	.21	.18		.15		.06					.10		T.							.11		.16	.16									1.72
Cascade	do	.73	.17	.28		.15		T.			.25		.27	.18			.16			.02	.43	.07				.01								2.72
Chessman Reservoir	do	.35	.05	.19		.12		.03							.27				.04		.35		.25	.37	.06							.05	2.73

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana—Contd.																																	
Chester	Marias	.15	.05						.15	.15		.14		.16								.05				.09						0.94
Chinook	Milk	T.		.22			T.											T.		T.				T.		.29	T.	T.				0.51
Clearcreek	do																																
Clemons	Missouri	.44	.29	.36	.31	T.	T.		T.	.01		.10	.17	.42				.18	T.		.01	.01	T.	.10									2.40
Clydepark	Yellowstone	.19		.34		T.	.07	.32	T.										.33	T.	.07	T.	.11							T.		T.	1.43
Conrad	Marias																																
Copper	Missouri	.50	.20	.51	T.	.05		.30	.02		.07			.02	.06						.02		.22									T.	1.97
Crow Agency	Bighorn		.91	.83	.41	.03	.37	.24	.10			T.	.29		.28			.31	T.	T.	.11	T.	.08									3.96
Culbertson	Missouri	.10	T.		1.81	.05		.10			.40	.15			.13		.02				.02		.16	.70		.25						4.49
Cut Bank	Marias	.27	.25						.50			.58					T.				.52	.08	.38									2.58
Denton	Missouri	.06	T.	1.00	.13				.08	.05		.02		T.	.12			T.			T.	.59	.12	T.		.02	T.	T.				2.19
Dillon	Jefferson	.27	.03	.01					.12	.02										.09		.82	.11	.08						.01	.27	1.83
Dirty Creek	Missouri	.04	.30	.19	.01	.11		.04	.02			.10		.09	.03			.02	.07		.12		.18								T.	1.20
Dry Creek	do	.26	.70	.25		.22	T.	.30				.15		.12							.15		.44								.10	2.69
Dry Wolf Camp	do	.60	.40	.28	.04	.02			.04	T.		1.80						.12			.12		.24		T.	.06	.12					2.84
Dunkirk	Marias	.13						T.	.29			.21		.04	.10		T.	T.			.27	.04	.11	.17								1.36
East Gallatin River	Gallatin	.20	.09	.17		.20	.10	.15	.10					T.	.30				.07	T.	T.	.41	.12								.11	2.02
Ekalaka	Little Missouri	.09	.18	.03		.07		.48	.45				.05		.07							.14										1.56
Elkhorn	Jefferson	.46	.11	.17	T.	.16	T.	.33	.02			.23		T.	.02						.07	.03	.36	.18		T.	T.			T.		.07	2.21
Fallon	Yellowstone	.90	.06	.53	.71	T.	.20	.03	.12						.12			T.						.15									2.82
Fish Creek	Jefferson	.62		.23		.13	.10	T.	T.			.36		T.						.30		.22	.08									2.04
Flathead Creek	Yellowstone	.33	.19	.60	.10	.35	.08	.49	.02		.01		.35	T.	.12				T.		.02	.05	.12								.11	2.94
Forsyth	do	.20	1.03	.35	1.01	T.		.13				.18									T.											2.90
Fort Benton	Missouri		.30											.40			.25						.30									1.25
Fort Shaw	do	.12	.17	.04		.04	.01		T.			T.	.02	.01	.15			.04			.27	.12	T.			.02						1.01
Foster	Bighorn	1.92	.83	.17	.30	.05	.22	T.	.29		.01		.01					T.	T.		T.											3.70
Garneill	Missouri	.70	.03	.10		.20	.10	.15				.30	.20	.30	.20			.30	.10	.20	.25	.90			.10	.10				.30		4.53
Glasgow	Milk	.49			.67	.10												.40				.12	.22		.16	.50						2.66
Glendive	Yellowstone	.26	T.		.48			.09	.08			T.			.32			.02			.67			.15								2.07
Goldbutte	Marias	.24						.03	.31	T.	T.	.04		.08							.17	.13	.10	.50								1.60
Graham	Powder	.25	.08		.10			.16					.16			.02		.03				.23	.12		.73	T.	.01					.03	0.83
Grayling	Madison	.07	.03	.10			.07	T.	.03			.15			.47				.05	.57	.48	1.32							.04	.30	.46	4.14
Great Falls	Missouri	.22	.14	.10	.08	T.	T.		T.			.13		.06	.34			.03			.61	.27	.01	.08								2.07
Halfway House	do	.42	.20	.30		.10		.20				.10		.01							.01		.20								.30	1.84
Harlowton	do	.20	.12			.15		.15															.40									1.02
Havre	Milk		.01	.12		.33		.01						.18	.05			.01		T.	.08		.04	.07			.07					0.97
Helena	Missouri	.08	.12	.03		.02		T.				.08	T.	.05	.02			T.			.09	T.	.38		T.							0.95
Highwood	do	.15	.25	.70		.01			.20	.05				.20	.40		.08	.07				.23	.12		.73	T.	.01				.08	3.20
Huntley	Yellowstone	.50	.62	.15	.10	.08	.04	.36				.13			.33																.03	2.31
Jones Canyon	Gallatin	.08	.07	.06		.16	.11	.67	.03			.08		.12					.22			.12	.21	.11					.22			2.96
Knobles Ranch	Milk	.26	.08		.02	.02		.18	.65	.06	.10			.10	.25						.26	.10	.49	1.05							.70	3.62
Lewistown	Missouri	.16	T.	.20	.12	T.	T.	.33				.30		.33				.02		T.	T.		.41				2.25					4.12
Lonetree	do		.13	.49					.19					.30	.30			.24				.05	.05	.68								2.43
Lytle	do	.20	.07			.15		.01	.05	.01		.11		.26	.01	T.	.03	.06			.06	.05		.02			.15					1.24
Malta	Milk	2.11		2.27					.01						.19						.05			.21		.06	.36					5.26
Medicine Lake	Missouri	.65			.90				.05			.05	.10			T.	.05				.33	.03		.15		.03						2.34
Melstone	do	.98	1.11	.36	.15		.16	.14																									2.90
Mildred	Yellowstone	.03	.18	1.72	.31	.18	.09	.42	T.	.06		.03			.14								T.										3.16
Miles City	do	1.18	.60	.34	.94	.06	.03	.13	T.			.03			.12			T.			T.		.10			.02							3.55
Norris	Madison				.08	.01		.16	.04						.02				T.	.02	T.	.03	.03										0.60
Nye	Yellowstone	.04					.16	.33				.11	.70		.40			1.18		.10	.14		.70						.01			.21	2.92
Olsen Creek	Jefferson	.64	.11	.12		.10		.42				.12		.08							.05	.17	.26	.15								.06	3.93
Pinegrove	Missouri	.12		.90	T.	.16		.08	T.	.09		.07		.16				.05			.02		.32				.03					.38	2.60
Pipestone Pass	Jefferson	.43	.03	.25		.03	T.	.21	T.			.15		.07							.10		.20										2.00
Plevna	Yellowstone	.04	.11	.67	.16			.31	.66				T.		.06			T.	.24	T.	.02		.02			.02						.06	2.39
Poplar	Missouri	.45			1.20	T.	T.		.25		T.	.15	.35					T.	.01		.02		.02										2.06
Red Lodge	Yellowstone	.19	T.	.16	.06	T.	.17	.02	T.			.02	.31		.26					.75			.42	.42		.38		T.					4.37
Renova	Jefferson	.06	.04	.13		.23	T.	.19				.10		.03						.12	.13	.03		.03									1.50
Ryegate	Missouri	.50				.10	.26	.10						.20					.10	T.	.08	.05	.16									.07	1.24
Savage	Yellowstone	.05		.18	.62	.10		.08	.14	.12	T.	.09			.24			.28			.22			1.15									1.16
Seville	Marias																																3.27
Shelby	do																																
Sidney	Yellowstone	.45			1.03			.03	.10		T.	.04		T.	.25		T.	T.			.50		.75				T.					3.15
Spokane Ranch	Missouri	.27	.38	.39		.14	T.	.08			.04	.03		.08							.11		.30	.13							.05	2.00
Springbrook	Yellowstone	.30	.01	.23	1.44	T.		.10	.08			T.			.20	T.		T.			T.		T.	.56		T.						2.92
Stearns	Missouri	.33	.09	.12		.05			.21		.08			.34				.16		.11		.22	.31		.07							2.09
Sunlit Farm	Milk	.10		.14	.04	.02									.45		.18				.09		T.			.07	.12					1.41
Sun River Canyon	Missouri	.24	.14	.09		.07	.02	.02	T.			.24	.05	.08	.24			.04			.02		T.	.20							T.	1.45
Three Forks	Madison																																
Trail Creek	Yellowstone	.17	.07	.31		.43	.15	.28				.10		.30					.13		.30	.25	T.								.17	2.66
Utica	Missouri	.20				.10		.48				.10		.04				.13			T.	.04	.16			.02						1.27
Valentine	do	.20	.05	.74	.13						T.	.12						.38				.13		.18			.15					2.08
Valier	Marias	.29	.50						.38	.01		.30		.03	.08		.05	.06			.42	.32		.26		T.						2.70
Virginia City	Jefferson and Madison.	.50		.10			.22	.10	.50												.11		.19								.40	2.12
Wall Rock Mount'n	Missouri	.14	.89	.58	.12	.19	.22	.08				.13		.09							.09		.63			T.				T.	.04	3.20
Warm Springs Crk	Madison		.05	.08		.22	.10	.02				.03		.04						.04		.15	.10							.01	.28	1.12
Wheaton	Missouri	.28	.29		.03			.07				.03			.09				T.			T.				.10						0.89
White Sulphur Spgs	do	.08	.49	.90	.07			.11	.16			.02		T.	.10								.10		.05							2.08
Whites Ranch	Yellowstone	.10		.98	.16	.08		.10	.46	.10					.14			.01	T.		.06		.27								T.	2.46
Wilder	Missouri	.11	.65	.13	.82	T.						T.			.17			.12				.06	.87	.46		T.		.12				3.51
Wolf Creek	do	.66	.22	.11	.02							.04	.31	.04				.05				.24	.14	.04								1.87
Woodville	Jefferson	.24	.03	.17		.03		.28	.14			T.			.04				.03		T.	.07	.23	.08							.09	1.43
North Dakota.																																	
Aplin	Knife					.24			.22					T.							.03											0.49
Arnegard	Missouri	.03		.02	.63	.42			.56			.13	T.		.02		.03				.12		T.	.37								2.33
Ashley	do		.34		.44	.15				.46			.26						.06	.07			.12						.14		T.	2.04
Beach	Lt. Missouri	.08		.30	.47		.05	.35	1.12	T.	T.					.06	T.	.06			.70											3.19
Belfield	Heart	.07			1.00	.65		.35	1.11	.02					T.							.15				.45						4.40
Berthold Agency	Missouri			T.	.25	.33		.33	.89		.02	.02			.02		T.	T.			.19		.54		T.							2.59
Bismarck	do	.04	T.	T.	.25	.55		T.	.01		T.	.38	T.		T.		T.	T.		T.	.88		.67			.22		.07		.01	.10	3.18
Bowman	Grand																																
Broncho	Knife																																
Buford	Missouri				.90	.12	.07			.11		.10			.18	.06					.11		.42	1.01									3.08
Carson	Heart		.05		.54	.10		.15	.08			.21									.24						.16						1.53
Dickinson	do	.05	T.		1.13	.07		.37	.56	T.		1.50	.04		.01		T.	T.			.01	.01					.05						3.80
Edgeley	James		.58		.32	.16				1.45		.16	1.70							.11				1.22									5.70
Energy	Missouri																																
Epping	do	.24			.59	1.01		.20		.10		.12					.05				.21	.11	.66		.95								5.14

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota—Con.																																	
Fullerton	James		.65		.45	.36			.85			1.22	.17							.20			2.56					.64		T.		7.10
Garrison	Missouri	T.			.20	.18		.48	.45			.12			T.						T.		.75				.13					2.31
Grinnell	do																															
Haley	Grand	.01	.30	.07	2.70	.03		.18				.46		T.	T.				.15		.17	.07			.01	T.					T.	4.15
Hettinger	do																															
Howard (near)	Missouri	.43	.07	T.	.12	.44		.35	.20	T.	T.	T.	T.		.15		T.				.08		.07	.45		.07		T.				2.93
Jamestown	James			.88	.20	.05	.12			.17		.32	.15							.12	.02	.20		1.45				.15	.10			3.93
Lamoine	Missouri		T.		*	1.21	T.	T.			.11	T.			T.						T.					.12		.65				2.09
McHenry (near)	James		.87		.03	T.			.29			.55	T.		.02					.01			.71						.69			3.17
Marmarth (near)	Lt. Missouri	.32	.19	.05	.17	T.		.90	.25			.02	.05		.02			T.	.03		T.	.04				.06	T.					2.10
Marstonmoor	James	T.	.23		.13	.51		T.	T.	.07		T.		T.	.33					T.			T.	.06			.03	.06		.06		1.48
Medora	Lt. Missouri	.85			.25		.28	.93						T.							.25			.23								2.79
Melville	James		1.55			.12						.30			T.					.10			.30	.10								2.47
Mott	Cannon Ball	T.	.18		1.02	.04	.13		.34		.11							.04			.34	T.				.02						2.22
Napoleon	Missouri		.01	.82	.65	.07	.94			.10		.01	.85		.02									.95				.08			.04	4.54
New England	Cannon Ball																															
New Rockford	James																															
New Salem	Heart	T.			.09	.13		.19	.06			.57	.05		T.		T.	T.			T.					2.03	.05	.06		.03		3.26
Orange	Cannon Ball		.27	.02	1.07	.50	.17	.19			T.								.18		.11		.13									2.64
Steele	Missouri		.11	*	.46	.22		.11				.67	.05	T.				T.		T.	T.	T.	.01	T.	T.		.02	T.	T.	.07			1.72
Washburn	do	T.			.15		.50		.04			.20									.52					.25		.55				2.21
Williston	do	.50			.45	.09		.16	.22		.03	.05			.11		.03				.10		.10	1.14		.31						3.29
South Dakota.																																
Aberdeen ‖	James		T.	.60	1.32	.35	.40			.15			.34		T.	T.			T.	.10	.20		.35	T.					T.			3.81
Academy	Missouri	.04	.02	.03	.77	.51		.59	1.05	T.					T.		T.	.33	.05	.65	.06						2.13		T.		.03	6.26
Alexandria	James																															
Ardmore	Cheyenne																															
Armour	Missouri																															
Bellefourche	Cheyenne	.25	.18		.40	.12												.33			.40	.08										1.76
Brookings	Big Sioux	.17			.20	.54			.42	.03					.05			.04		.60			.33	.07				.05			.02	2.52
Bryant	do		.64		.20	.66			.25	.14								.35	.06	.50	T.		1.25	.29				T.		.03		T.	4.37
Camp Crook	Lt. Missouri	.08	.17	.20	.50			.70			.03	T.	.14		T.			.11	.07				.12			.04			.27				2.38
Canton	Big Sioux								1.42						T.			.22	.09	1.57	T.						.17		T.	T.	T.	3.47
Cascade Springs	Cheyenne	.25	.43	.68	.62	.46		T.	.07				T.							.12	.32		.03		.27				.12			3.37
Castlewood	Big Sioux	.46	T.	T.	1.15	.77		.08	.15	.04	T.		T.		.02			.31	.05	.48	.01		.40	.56	T.			.11	T.	T.	.04	4.63
Centerville	Missouri			T.	T.	T.			1.21	.02					T.			.11	T.	1.51	.07						T.	.38		.20	.02	3.52
Chamberlain	do			.22	1.20			.22				.21						.48	.10	.47												2.90
Clark	James		.41	.42	.68	.90		.02		.58					.11			.32	.09	.37	T.		2.87	.14							.02	6.93
Cottonwood	Missouri	.02	.13	1.33	.18	.02				T.	.10						.49				.15											2.42
Custer	Cheyenne	.25	.40	.35	1.08				.12									.17			.79											3.16
Daviston	Owl	.07	.33		2.57	.17	.08		T.			1.09	.02				T.	.13	.03	.20			.63		.06			.07				5.45
Deadwood	Cheyenne	.65	.20		.60	.50		T.	.55						.05						.10			.35	.10						3.10
Deerfield	do	.12	.22	.40	.30	.26		.06	T.	.03		.02			.13			.37		T.	.54			.10	T.			T.	T.	.37		T.	2.92
De Smet	James	.85	.10		1.35			.25	.22						T.			T.		.90		.65	T.	.50				T.					4.82
Dowling	Cheyenne	.20	.05	.03	.90	.25			3.00									.30		.05	.35											5.13
Dumont	do	.08	.40	.58	.11	.30		.32	.60						.05			.27						.43									3.14
Eagle Butte	Grand			.42			.52											.41	.03			.06	.74					T.			T.	2.18
Eales	Missouri	.01	.45		.45	.06		T.		.62			.04					.31	.06	.01	T.	T.	.46		T.			T.					2.47
Edson	Cheyenne	.25		1.57	.25	.18												.38	.03		.23	.40	.10	.05								3.44
Elk Mountain	do	.52	.04	1.05	.92			.45							.10			.45		.75			.08				.03		.03			4.42
Ellingson	Grand	.12	.26	.01	2.39	.07		.38	.01			.38	.02					.07			.18	.02			T.				T.			T.	3.91
Englewood	Cheyenne			.10		.40		.75	1.50		.30	.10	.20		.05			.50					.50		.30							.10	4.80
Eureka	Missouri	.04	.29	.01	.37	.11				.20			.72				.05		.19	.01			.14						.05			.01	2.19
Fairfax	do				.20	.70		3.10				T.						.15	.10	1.13	.17					T.	.25				.08	5.88
Faulkton	James	.07	T.		.34	.27				.60							T.	.39	.05	.28			.65	.02					.04			2.71
Flandreau	Big Sioux	.31	.12		.34	.22		.93		.26			.14				.15			.78			.12	.12				.02				3.51
Forestburg	James	.02			.71			.51	.09						.15			T.	T.	.54			.18	T.				.49		.44			3.13
Fort Meade	Cheyenne	.90	.70		.24			.30	.30								T.	T.		.10			.24						T.				2.78
Frederick	James			.06	.63	.20			.55				1.60					.05		.06		.74	.40					.03	.05				4.37
Greenmont	Cheyenne	.20		.60	1.00			T.	1.00						T.								1.00										3.80
Greenwood	Missouri	.03		.13	.31			1.03	T.			.20			T.			.10		1.37	.28							.76		.28		.04	4.53
Hardingrove	Cheyenne		.14		1.97				.35									.44															2.90
Harveys Ranch	do		.22	.18	1.18			.10	.50	T.								.30					T.						2.16			4.64
Hermosa	do	.15	.16	1.00	1.19			.02		.02				.13			.33			.21									T.		.41	3.62
Highmore	Missouri	.19	.05		.15	.35				.38					.02			.25		.05	T.											1.44
Hopewell	Cheyenne			.73	.44	.23			.23	.21	T.							.70		.03	.31											2.88
Howard	Missouri	T.	.31	T.	.11	.52			.68						.04			.20	.02	.72	.01		.06	.06				.02		.10		T.	2.85
Howell	James	.04	.04		.34	.19				.27					.02		.01	.31	.03	.11	T.	T.	.37									1.73
Huron	do	.29			.60	.11		.78	.14			T.			.23			.09	.02	.37	T.		.73	.22					.13			3.71
Ipswich	do				.22	.36				.52			1.10							.10			1.20									3.50
Kadoka	White			.86	.66	.05		.02	T.	.06	T.	T.			T.			.39			1.68								T.			3.72
Kennebec	Missouri		1.45		.30	.60				.30								.19		.34	.12		T.									3.30
Kidder	James																															
Kimball	Missouri	T.	.01		.52	.51		T.	.44	.04		.14			T.			.61	.09	.53	T.		.34	.03				.40		.20			3.86
Lacreek	White	.75	.48	.54	1.04	T.			.26		.40										.12					.23							3.82
La Delie	James	.75	.40	T.	1.28	.30		.25	.05	.40					.48			.35		.50			1.35	.15								.09	6.35
Lead	Cheyenne	.30	.22		.53	.42			.64												.12			.30									2.66
Manderson	White																															
Marion	Missouri				.75	.45			2.41			T.			T.			.50	.12	1.50	1.30		.07	T.				.55		.35		T.	8.00
Marston	do		.51	.02	.60	.25				.44							.01	.31		.06	.20												2.40
Mellette	James	.10	T.	.35	.40	.05				.62					.16	T.		.19	.06	.30			1.60	.06					.03		.03		3.95
Menno	do				1.65	T.		1.15			.05			.10	T.			.35	T.	1.20	.04							.58					5.12
Milbank ‖	Minnesota			T.	.78	1.34			.25	.02			1.03		.35	.04		.09	.02	.06	.36		.40	.80				.04					5.58
Mitchell ‖	James				.83				1.82									.60	.14	.90								.50		.10	.05		4.94
Mobridge	Missouri	.15	T.	.95					.20			T.	.67						.08	T.	.10	.60		.10	T.								2.85
Murdo	White		.45	.75	.60	.28			.75									.45			.85												4.13
Oelrichs	Cheyenne	.40	.37	2.60	.67					.52										.10	.38			.20									5.24
Onaka	James	.01	.78	.32	.30				.80									.30	.12	.15	.18	.51	T.										3.47
Orman	Cheyenne	.09	.40		1.77	.10												.34			.29							.73					3.72
Ottumwa	Missouri			.40	.35					T.							.33	T.	T.														1.08
Parkston	James	.22		.30	.43			.63	.45		.16							.60		1.39	.03		T.	T.				.53	.39			.02	5.15
Pierre	Missouri		.49	.02	1.30				.94	.01								.38	.01	.06	.01												3.22
Plankinton	James	T.	T.		.75				.90	.04		.07						.74		1.03	.06		.27	.03			T.	.83		.80		T.	5.52
Pollock ‖	Missouri	.03	T.	.15	.75					.14			.16		.02					.10			T.						.61				1.96
Rapid City	Cheyenne	.90	.63	1.04	2.08	.12		.12	T.	.02	.12	.01	T.					.43		.04	.05	.40	.04		.44				.20				6.64
Redfield ‖	James		.04		.02	.40			.05	.32								.58	.07	.08	.15	1.21	.14										3.06
Rochford	Cheyenne	.15	.53	.69	.52	.25		.05	.02	T.	.03	T.	T.					.33		T.	.14		.03	T.					.28				3.02
Rosebud	White		.15	.17	.41	.18			.24		.02				.01			.71		.63	.10			T.			.18	.05		T.		.12	2.97
Roslyn	Big Sioux	.05	.23		.77	.48				.62			1.01		.27					.20			.28	.84					.03		.10	4.88
Selby	Missouri		.05		1.19	.08			.31				.09					.09				.05	.90										2.76
Sioux Falls ‖	Big Sioux	.07	T.	T.	.03	.12	T.		2.83	T.	T.					T.		.02	.80		2.08	T.	T.	T.				T.	1.50		.20	T.	7.56

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
***South Dakota*—Con.**																																	
Sisseton ‖	Minnesota		.75				1.50			.65		2.00				.25					.02		.15	2.70								8.02
Sorum	Owl		.58	.16	1.15	.67	.45				T.		T.						.24	.12			.82		.57		.07			.06	T.			4.89
Spearfish	Cheyenne	T.	.18	.05	.55	.05			T.							T.			T.		.65			.67					T.			T.	2.15
Stephan	Missouri	.14	T.		.21				T.	.32		T.				T.				T.	.49	.05			T.						T.		T.	1.21
Tama	Cheyenne																																
Timber Lake	Grand		.88	T.	1.27	T.		T.	.30									.20					.48	T.						T.			3.13
Tyndall	Missouri	.12	T.		.27	.05			1.62			.43			T.			.08	T.	1.20	.29							.77	.15			.81	5.79
Vale	Cheyenne		.31		1.92	.24		T.	T.						T.			.37	.05	T.	.07		.04	.18	.09				T.				3.27
Vermilion	Missouri					.02			.21	.04						.04			.11	1.66	.62				T.			.30		.15		T.	3.15
Waters Ranch	Cheyenne	.05	.03	.46	.40	.03			.03						.04			.01			.72		.22		.12			.15					2.26
Watertown ‖	Big Sioux		T.	.10	.40	1.48			.38	.25	T.		.10		.01	.04		.40	.06	.06	.52		.45	.76						T.		T.	5.01
Wentworth	do	.10	.09		.70	.24			.52	.27					.21			.30		.85	.04		.17					.18					3.67
Wessington Springs	James																																
White Lake	Missouri	.38			.62				.44									.47	.15	.74			.60					1.66		.20			5.26
Winner	White	.51	.15		1.13			.72	.08		.02				T.		.30	.34	.58	T.	.02						.58					.77	5.20
Yankton	Missouri		T.		.75	.02		.32	.45			T.	T.		T.			.07	.14	1.91	.07						T.	.41		.37		.33	4.84
***Minnesota*.**																																	
Pipestone	Big Sioux	.15	T.		T.	.08			.38	.29								.32	T.	.75	T.	.05	.09					T.				.03	2.14
***Colorado*.**																																	
Albion Lake	South Platte										.03		.02	.01	.05	.11			.62	.09			.02			.22	1.06	.10	.02		T.	.38	2.93
Arriba	Republican		.01	.04	.15								T.	T.	.10	1.01		.08		.20	.30		.04	T.	.31	.91	.82	.08		.20	.60	.25	4.99
Auldhurst	South Platte	.09										T.	T.	T.	.10	1.01		.08		.20	.30		.04	T.	.31	.91	.82	.08		.20	.60	.25	4.99
Bennett (near)	do					.11							.18		.36										.43	.22					.10	.70	2.10
Boulder	do		.08		.25								.43		1.15	.04		.02	.09							.01		.04			.05	1.17	3.25
Burlington	Republican	.82	.10		.88						.02		.50			.14			.05		T.			.20	.86	.18	.31	.36	.03		.24	1.95	6.64
Cassells	South Platte												T.	.15	.20	.30	T.		.12			.47	.10	.02	.90	.45	.06	.08		.06	.04	.45	3.40
Castle Rock	do			.04	.43							.07	.03	.10	1.00	.65			.04	.05			.10		.44	.50	.02				T.		3.47
Cheesman	do	T.	T.			T.		T.		T.		T.	T.	T.	.10	1.30	T.	T.		.10	T.	T.	.35	T.	1.20	.20	.40	.10	T.	T.	.60	.20	4.55
Cheyenne Wells	Smoky Hill			.28							.20		T.	.65		1.12										.21		T.	.27		.32	.15	3.20
Cope	Republican	.15										.15		.29					.90						.39	2.00		.26					4.14
Corona ‖	South Platte	1.08				.64											.42				.24			.26		.38	.18		.70			.64	4.54
Denver	do	.02		.34	.10			T.			T.		T.	.18	2.00	T.			.02	T.		.01	.02	T.	.07	.02	T.	T.	T.	.06	.05	.01	2.90
Edgewater	do	T.		.61	.26								.01	.14	.95	T.				T.		.07	.05		.18	.03			T.				2.24
Estes Park Fish Hatchery	do	.18	.05	.15	.38								.05	.15	.13	T.			.23				.06	.14	.05	.05	.06	.60		T.	.06	.35	2.69
Fort Collins	do		.02	.22	.20						T.		T.	.09	.17			T.	T.				T.	T.	T.	T.	.65	.34		T.	.22	1.02	2.93
Fort Lupton	do		T.	.08	.12							T.	.08	.06	.20	.24			.02				.02					.69			.20	.06	1.77
Fort Morgan	do	T.			T.						.26	.08	T.	.40		.15									1.15	.10	T.	.28				.50	2.92
Frances	do	1.08	.02	.11	.36						T.	.03	.05	.18	.40	.12		.10	.02				.15		.11	.45	.09	.26			.16	.52	4.21
Frys Ranch	do	.25	.10	.04	.49							T.		.10				.14			.09	.02	.24	.04	.70	.03	.10	.24		.07	.06	.46	3.19
Georgetown ‖	do	.10	.03	T.	.17										.18	.23	T.		T.	.03		.13	.18		.40	.17	.11	.16	.12	T.	.09	.49	2.59
Greeley	do	.03	.02	.09	.11	.02				T.				T.	.06			.04					T.				.23				.59	.06	1.25
Grover (near)	do	.14	.08	.21	.30	.08					T.	T.	.01	T.	.01			T.	.02	T.	.04			T.	T.		T.	.46	T.		.13		1.48
Hartsel	do												.04	.02	.76	.01	.55	.06	.10			.09			.50	.09	.11	.10	.75				.60	3.78
Hawthorne	do	T.	T.	.03	.16							T.	.07	T.	2.56	.53			.10			.07				T.	.04		T.	T.	.34	3.90
Holyoke (near)	Republican	.66	.40	.05	1.25						.05	T.	T.									.10				.40	.76	.50	.15		.05	.08	4.45
Idaho Springs	South Platte	.02	.12		.08									T.	.43	.15	.18	T.	.01			.23	.05	T.	.05	.42	.34	.17	T.	.34	.82	.16	3.57
Julesburg	do	.06	.05		.40										.13						.43						.30		.40			1.20	2.97
Keota	do																																
Kersey	do			.41	.19										.35																1.15	1.35	3.45
Laporte	do			.28	.22										.58				.07								1.00	.10		.42	.77	3.44
Leroy (near)	Republican	.53			.22	T.					.01	T.	.04	T.					.13		.01			T.	T.	.56			.18		.08	.08	1.84
Longmont ‖	South Platte		.39	.20	.36								T.		.66			.03					T.			.25				.52	.33	2.74
Longs Peak (near)	do	.50	.02	.01	.50							.01	.90	.07	.10	.08			.20			.04			.14	.63	.04	.57	.02		.07	.49	4.39
Lulu Pass	do																																
Merino	do				.33							T.	.34	.06	T.										.43	.15				.33		1.64
Moraine	do	.13	.08	.28	.40									.12										.50				.79				.41	2.71
Platte Canon	do				.04										.04						.01		.40		.47	.10	T.	T.				.10	1.16
St. Cloud	do	.06	.43	.06	.94					T.	T.	.05	.13	.26	.04	T.	T.	.03	.30	.06			.14			.32	.36	.47		T.	.21	1.03	4.89
Sedgwick	do	.40	.55	.07	.16		.05												.35		.15				T.	T.	.61		.22			.23	2.79
Sili Mine	do																																
Spicer (near)	North Platte				.52								.02	.14	.10				T.	.50			.22				.40			.17	.12	2.19
Sterling	South Platte	.30			.53	.18						T.	.09		.07			.07							.45	.19	T.	.11		.06	.12		2.17
Waterdale	do				.47																							.56			.37		1.40
Wray	Republican	.60			.90										T.			2.57						T.	.81	.40		.40		.15	.05		5.88
Yuma	do	1.00	.01		.27						T.	.10	.05		T.	T.			.47					T.	T.	.82					1.98	.16	4.86
***Nebraska*.**																																	
Ainsworth	Niobrara		.05		1.00	1.00					.08				T.				.52	.10	.05		T.				.39			.52		.19	3.90
Albion	Loup	.16	.04			.11													.11	.39	.30			.03		.39	1.16		.12				2.81
Alliance	North Platte	.30			1.05													T.		.20						1.60					.20	.10	3.45
Alma	Republican	.24	.51		.01							.01							.56		.01				.02	.33	.21						1.90
Arcadia	Loup				.35							.16								.31	.08						.54	.06			.25		1.75
Arden ‖	do	T.	.07	T.	.08							.01						.09	.35	.75						.17	.52	T.					2.04
Ashland	Platte		.08				T.			.09		.15		.06		.20			.56		.40		T.		.03	T.	.34	.09	T.			T.	2.00
Ashton	Loup	2.10			.13							.05							.30		.10			T.		.02	1.22	.10	.01		.10		4.13
Atkinson ‖	Elkhorn				.30	.20													.06	1.30	.12				.27		.08	.81			.25		3.39
Auburn ‖	Missouri	T.		.85			.05						.07	.01			T.			T.				.03			.10	.07					1.18
Aurora	Blue																																
Beatrice	do	.17	.13										.06						.05		1.40						.27						2.17
Beaver City	Republican	.17	.45													.03			.56		T.			.04		.44	.13						1.82
Bellevue	Missouri		.44	.25			.06			.04	T.	.03	.06		.09						.04		T.		.16			.30	T.			T.	1.47
Benkelman	Republican	.73			1.25																.20				.80		2.50				.25		5.73
Bertrand ‖	do		2.27										.05			.05			1.05							30	1.63						5.38
Blair	Missouri		.34	T.		T.				.04		.10	.02			.12				.18	.07		T.		.25		.01	.60	.03			.12	1.88
Bloomfield	do				.50	.08					T.	.15			.10				.07	2.10	.27			T.		T.	T.	.37		.07		.29	4.00
Bradshaw ‖	Blue	.22			.11								1.45			.40			.25						T.	.42	.15			T.	T.	3.00
Bridgeport	North Platte		.10	T.	1.03															.09	.33			T.		T.		.05			1.55	3.15
Broken Bow ‖	Loup		.04	.03	.19						.06	1.50							.13		.51						.42		T.	.22			3.10
Bruning	Blue	.24	.20			.05							.18	.03					.15		.04					.19	T.	.20					1.28
Burge	Niobrara																																
Butte	do		T.		.10	.48			.40			.17						.14	.04	1.84	.27					.05	1.03				.20	4.72
Cairo	Platte	.10	.12		.42							1.48				.10			.13						.45	1.10						3.90
Callaway	Loup				.13	.60							.13						.59		.38			.05		.58					.18		2.64
Cambridge	Republican	.10	.28	T.	T.	.08									.05	.25			.26	.04			T.		1.26	1.27			.14	T.			3.73
Columbus ‖	Loup		.08																.92		.05				.37	.02	.40	.18	.02	.02			2.06
Crete	Blue		.15									.14	.30	.16					.07		.45				.08		.07	.04	.05				1.51

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nebraska—Contd.																																	
Culbertson ‖	Republican	.52	.34		.28							.01			T.		T.	T.	T.	.17	T.	.13				.53	.98		T.		.45	.02	3.25
Curly	North Platte	.36	T.	.05	1.32	.21			.03							T.			1.10	.50	.12	.04	.16	.17		T.	.10			.37			3.11
Curtis	Republican	.56	.24		.03						T.		T.	T.		T.			1.10	.50	.70			T.	.33		.86	T.			T.	.02	4.34
David City	Blue		.18	.02		T.						.62	.70	.03		.2			.62		T.		T.		.18	T.	.80	.10					3.45
Du Bois	Missouri		.10				.23					.39	.05									T.				.47		.13				1.37
Dumas	Loup	.10	.02		.15	.04						.15	.11			.11			.27	.38	.45					1.10	.20	T.		.01	T.	2.72
Elm Creek ‖	Platte																		1.00							.14	.26						1.77
Elsie ‖	Republican		.16		.11	.45							.10	.07							.03					.05	1.10	.32			1.15	.28	3.82
Ericson (near)	Loup	.20	.19		.09							.03							.03	.31	.82					T.	.50	.43					2.60
Ewing ‖	Elkhorn		.03		.10						T.	.16			T.				.20	.68	.63			.10			.27	.19		T.		.05	2.41
Exeter	Blue	.30				.05							1.13						.26			.59				T.	.04	T.					2.37
Fairbury	do	.18	T.			T.						.05	.05			T.		.04			.15				T.	.08	T.	.05					0.60
Fairmont ‖	do		.20			T.							.46			.12			.28			.07					T.	.13					1.26
Falls City	Missouri		T.			.98	.02				.09	.15										.05					.48		.04				1.81
Fort Robinson ‖	White	.30	.12	.05	.80	1.20				.21				.15	.12						.25												3.20
Franklin	Republican	.26			.13														.77		T.	T.		T.	.65	.10		.02				1.93
Fremont	Platte			.81						.25		.18				.13			.30	.12	T.				.26		.10	.21	T.			.10	2.46
Fullerton	Loup	T.				.16							.23						.72	.04					.60		.80	.11		T.			2.66
Geneva	Blue	T.	.34										T.	T.		T.					.22				.01	.12	T.	.25					0.94
Genoa	Loup	T.	.35			.03							.02			.08			.32	.03	.15				.32	T.	.60		.10				2.00
Gordon	Niobrara																																
Gosper	Republican	.06	.35																.82		.09		T.			.33	.99						2.64
Gothenburg	Platte	.12	.12	T.	T.	.11							.06						1.33	T.		.15			T.	.05	.40	T.				T.	2.34
Grand Island ‖	do		.54			T.							.77			.09			.68							1.92						4.00
Grant	Republican	.11		T.	2.21							.74	T.								T.				4.83	1.00				.95	.83	10.67
Greeley	Loup	.05	.13		.04							.32								.16	.26			.11		.15	.40	.33	.14				2.09
Guide Rock	Republican		.35																.55						.72	.25						1.87
Halsey	Loup	T.	.25		.45	.28					T.								.12	.18	.54						1.42		.59				3.83
Hartington ‖	Missouri			T.		T.	T.		T.	.08			T.		.06	.08			.12	.80	1.55	.06						.28	T.		.08		3.11
Harvard	Blue	.30	.25										T.						.05					T.		.03	.70						1.33
Hastings ‖	do	.90											T.			.32			.75						.10	.12	.30						2.49
Hayes Center	Republican	.10		.40	.46								.02					.05		.05				.18	.17	.85					.35	.42	3.05
Hay Springs	White	.90	.03	.49	.48	T.		.05			.10	T.	T.						T.	.05	.15				.53			.05		T.			2.83
Hebron	Blue	T.	.12			T.	T.						.03	.42		T.			.03		.35					.88	.02	.01					1.86
Hemingford ‖	Niobrara	.39			.90	.62			.11					.13						.01	1.01		.06			1.40			.06				4.69
Hendley ‖	Republican	.40																	.50						.32	.43							1.65
Hershey ‖	South Platte	.20		.70	.58													.61						.03	.78	.11				.60	.07	3.68
Hillside	North Platte	.10	.29	.01	1.01						T.				.04				T.		.70					T.	2.31				.54	.76	5.76
Holdredge ‖	Republican		.54	.12		.15							.05			.20			.55							.37	.96	.03					2.97
Hooper	Elkhorn			.50							.20		.11			.12					.35	.15		.45				1.20	.17			.16	3.41
Hull (near) ‖	North Platte	2.02			.70						.03		.10									.48									.02	.60	3.95
Imperial	Republican	.51		.70	.49						T.	.06	T.	T.							T.	T.		T.		.16	2.25	.05		.16	.06	.65	5.09
Kearney	Platte																																
Kimball	South Platte		.15	.21	.60					.16			.12	T.						.73			T.					.07		.03	.10		2.17
Kirkwood	Niobrara	1.00	.20	.13	.80						T.	.95						.07	.89	.10			.13			1.03			.22		.19	5.71
Kowanda ‖	North Platte	.15	.55		.29									.10					.06	.48	.22	.18					.07	.10				1.60	3.80
Lamar	Republican	.69	.60	T.	2.65						.06	.50	T.					T.		.04	.15					.34	.94	.06					6.03
Lexington	Platte	.17	.37																							.10	.26						0.90
Lincoln	do		.16		T.	T.				.45		.41	.03	T.		.04			.24		.16		T.	.04	T.	.55	.10	T.		T.	T.	2.18
Lodgepole	South Platte	.18	.34	.09	.31										.21						.82	.09				.06			.15			.80	3.05
Loup City	Loup	.73	.12		.33							.24							.30	.16	.09		.07		.10	1.08			.19			3.41
Loyal	do			.35	.42																1.05					1.30						3.12
McCook	Republican		.29	.16		.14																		.70		.53				.47		2.29
McCool Junction ‖	Blue	.15										1.48	T.	T.	.30			.31			T.					.17						2.41
Madison	Elkhorn											.19			T.				T.	.50	.40		T.	.17				1.43	.54			.10	3.33
Marquette	Blue	.04	.10			.03						T.	1.47			.15			.44		.01			.01	T.	.51	.05	T.		T.		2.81
Mary	Loup		.20		.80	1.39					.05				T.			T.	.06	.27	.26	T.		T.		1.54		.02	1.47	.02		6.08
Mason City ‖	do		.02		.34							.80	.42							.25				1.50			.20						3.53
Minatare	North Platte		.10	.30	.96						.04									.80					.30		.03		1.00	.60		4.13
Minden	Blue	.75	.48		.25							.12			T.	.08			.76					.36	.49	.14		.51	.14		.10	.84	3.43
Mitchell	North Platte	.50		.26	1.27	.13					T.									T.	.40		.11		.17							4.43
Nebraska City	Missouri		.75			.10				.30		.10	.60						.23		.77		2.07			.07						4.99
Nelson	Blue	.41																	.36							.65	.22					1.64
Norfolk	Elkhorn	T.				T.	T.			.02	T.	.10							.12	.52	.54			.93			.06	.48	.08			.12	2.97
North Loup	Loup	.22	.10		.40	.17							.65							T.	.45					T.	.75	.05	.63		T.		3.42
North Platte	Platte	.13	.02	.36	.21														1.07		.39					.07	1.10				.62	.04	4.01
Oakdale ‖	Elkhorn	T.	T.		T.	.01				.02		1.18			T.					.60	.76						.14	.46		T.		.04	3.21
Omaha	Missouri		.12	.14		.02				.02		.04	.02			.16			.94		.10			.03			.03	.16				T.	1.78
Ord	Loup	.25			.31							.02								.79						.46	.57		.47		.03		2.90
Orleans ‖	Republican	.50			.08														.68							1.08	.28						2.62
Osceola	Blue											.90	.80						.50								.33	.10					2.63
Palisade	Republican																							.65	1.45				.11		.52	.08	2.81
Palmyra	Missouri		.15				.02			.18		.64		.12					.04		.28		.38		.03		.16	.43		T.			2.43
Pawnee City	do		.26			.26						.05									.05						.66						1.28
Paxton	South Platte	.13		.06	.58	.01									T.				.42		.63					.08	2.60	.38			.89	.25	6.03
Plymouth ‖	Blue		.32										.50	.03					.10		.65												1.60
Purdum	Loup		.19		1.15						.02				.01				.06	.40	.37		.02				1.25		T.	.99	.10		4.56
Ravenna	do	.05	.08		.20							.18				.02			.33		.02			.05		.05	1.01				.17		2.16
Red Cloud	Republican	T.	.44								T.					T.			.47		T.					.45	.18	.05				T.	1.59
St. Libory	Platte				.30							.66							.20					.54			1.45	.52					3.67
St. Paul	Loup	.06	.16		.38							.12			.05				.12					.06		.06	1.43		.05				2.49
Santee	Missouri		T.		.67	.01			.75			.05			T.			.03	.02	1.22	.15					.06	.95		.49		.90	5.30
Sargent ‖	Loup																																
Schuyler	Platte																																
Scottsbluff	North Platte	.53		.23	2.11	.05				T.		.04	T.	T.						.27	.65				T.	.07		.32	.06		.10	.90	5.33
Seward	Blue		.22							.50		.30	.45			.15			.55								.18						2.35
Sidney	South Platte	.43	.29	.80	.31										.37						.86				.12	.40			1.32		.10	.09	5.09
Springfield ‖	Platte		.01	1.17			T.				.11	T.	.09		.13			.92		.05	.10					T.		.23	.28	.07			3.29
Springview	Niobrara		T.	.10	.67	.75					T.	1.40					T.	T.	1.25	.10			T.			T.	T.					T.	4.27
Stanton	Elkhorn											.12				.07			.41	.30					.12		.05	.75				.21	2.03
Stratton ‖	Republican		.47		.23	.12																				.46	1.00				.33		2.61
Superior ‖	do		.80									.12														1.35	.30						2.57
Syracuse	Missouri		.08			.07				.18		.18		.16		T.			.10		.80		1.18		.07		.22	.16			T.		3.20
Table Rock	do		.09	.01			.18					.39	.03	.03							.10						.28						1.11
Tecumseh	do																																
Tekamah ‖	do		.03									.05	.05			.08			.05	.61	.19				.38			1.00	.30			.13	2.87
University Farm	Platte		.16							.24		.81	.05			.04			.38		.25						.60	.15					2.68
Valentine	Niobrara		.20	.14	.71						.04				T.			.03		.75	.17					T.		.03				T.	2.07
Wahoo	Platte		.38							.42		.55			.33				1.35			.17					.33	.10					3.63
Wakefield	Elkhorn		T.									.12				.02			.17	1.18	.25			.35			T.	.43		.03		.57	3.12
Walthill ‖	Missouri								T.				.07			.06			.11	.85	.41							.42					1.92
Watertown	Platte		.18									.02							.93					.18		.06	.14		.12				2.23

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nebraska—Contd.																																	
Wauneta	Republican	.15		.40	.26														.50		.24		.72		.70	.95				.60		.20	3.26
Weeping Water	Missouri		.04	.34			.04				.04	.04	.03	.41											.03		.20	.40	T.				3.03
Westpoint	Elkhorn		.10	.15												.40			.38	.70	T.		T.		T.		T.	1.25	.54		.33	3.85
Wisner	do		T.	T.	T.					T.		.10							.05	.75	.65		.49		T.			.55			.46	3.05
York	Blue		.09			T.							1.64			.16			.23		T.				T.	T.	.22	T.	.03		T.		2.37
Iowa.																																	
Afton	Grand	T.					.05				T.			.24					.41		1.19	.10			.05			.35	.07				2.46
Allerton	Chariton	.07	.02	.03								.45	.02	.12					.06		.16				.21			.18	.06				1.38
Alton	Floyd	03							.83	.15				.12				.12	.03	1.64	.23		T.	T.				.04				.05	3.24
Atlantic	Nishnabotna		.01			.38	.02			.15		.04	.17			.04			.22	.02	.22		.01		.02			.25	.27			T.	1.82
Audobon	do	.03	T.				.03				.45		.40			.18			.10	.65	1.40	.05			.04			.45	.45			.06	4.29
Bedford	Missouri		T.				.12						.03	.06		T.			.05		.13	.06			T.			1.08	T.				1.53
Centerville	Chariton			.02			.10	.03					.55							T.		.02			.50								1.22
Chariton	do	.25					T.				T.		1.85	.25					T.		T.	.60			.30				T.				3.25
Clarinda	Nodaway			.18			.21								.30				.07	.03		.97						.48					2.24
Corning	do		T.			T.	T.				.02			.97					.22		.30	.02			T.		T.	1.05	T.			T.	2.58
Corydon	Chariton			.03									.33	T.			T.		.02			.34			.37			.17	T.				1.26
Council Bluffs	Missouri	T.	T.	.09		.06	.05		.86		.09		T.			.15			.80	T.	.10		T.		.05		.05	.10	.14			T.	2.54
Creston	do	.07				.15	.02	T.		T.		T.		.28					.32			1.00				.05		.13	.21	.01			2.24
Cumberland	Nodaway					.16			.01		.01	.46					.30				.02			T.	.21			.31	.09			T.	1.57
Denison	Missouri	T.					.03		.31	.79	.11	.04				.14			.02	1.05	.35				.31			.71	.20	.04		.02	4.12
Elliott	Nishnabotna					T.					.17								.45		.15		T.		T.		T.	.85					1.62
Greenfield	Nodaway		T.			T.	T.				.18		.06	.10					.30		T.	T.			.12			.38	.03				1.17
Harlan	Nishnabotna	T.	T.			T.	.04		.02	.35	.09	.02	.25			.09			.11	.30	.51				.03		T.	.67	.10	T.		.04	2.62
Inwood	Big Sioux				.02	.02			1.33						T.			.12	T.	1.56								12		.01		.04	3.22
Lamoni	Grand	.07		T.			T.						.58	.10				.01			.78				.36			.23	T.				2.13
Larrabee	Little Sioux			.33					.70		.28					.12		.06		1.38	1.18							.16				.09	4.30
Le Mars	Floyd		T.		T.	T.			1.27	.01					.04	.22		T.		1.80	1.36		T.	.02				.11		.03		.19	5.05
Lenox	Missouri		T.				.25						.25	.25					.05		.15				T.			.78					1.73
Leon	Grand												.10	.10								.80			.20			.25	T.				
Little Sioux	Little Sioux									.39		.06				.07				.60	.40				.27			.64	.10	T.		.03	2.56
Logan	Missouri						.03			.54		.12	.15			.15				.04	.30	.07			.09			.42	.70				2.61
Mount Ayr	Grand	.02	T.				T.						.12	.13			T.		.03		.02	.60			.27			.83	T.				2.02
Murray	do	T.					.04		.01				.11	.30					.09		1.00	.11			.04			.35	.05		T.		2.10
Northboro	Missouri		.57	.14		.65	.13				T.			.25					.09		.19												2.02
Odebolt	Little Sioux								.40		.53					.23			.07	1.04	.44							.27				.20	3.18
Onawa	Missouri		.02						.02		.03	.10				.22			.08	1.12	.20		T.	.35				.52		.05		.03	2.74
Pacific Junction	do		.42	.28		.05	.05				.43	.05		.29		T.			.58		.25	.13	T.		.20		.06	.17	T.			T.	2.96
Rock Rapids	Big Sioux								1.30	.08								.35	.10	1.04	1.00							.28			T.		4.15
Sheldon	Floyd								.71	.12						.12	.04	.12	.03	1.61	.22							.02			.02	.10	3.11
Sibley	Big Sioux		.03	.31	.02				.95	.08							.02		.25	.04	2.04	.04	.01	T.				T.	.18		.10	.01	4.08
Sioux Center	Floyd		.15		T.	.05			1.60	.14						.12		.06		1.53	.03				.08		T.				.02	3.78
Sioux City	Missouri		T.			T.			.63	.02		.07	T.			.18		.01	.02	1.84	.32		.11	T.			T.	.34		.07		.07	3.68
Spencer	Little Sioux	.07							.45	.08	.15					.20		.06		1.55	.45				.15								3.16
Thurman	Missouri		T.	.12		.02	T.				.52	.01		.64					.20		.60		.98		.05		T.	.22			T.		3.36
Washta	Little Sioux	.40							1.55	.18					.40						1.20	.48		.05				.25		.08		.04	4.63
Kansas.																																	
Abilene	Smoky Hill		.66	2.40			.10					.04	.60									.54				.02							4.36
Agricultural College	Kansas		.25	.16		.15					T.		1.85									.40			.03				.39				3.23
Alton	Solomon	T.	1.21	.10	T.	.02					.44		.30	.25		T.			.03		.11					.01	.05	T.	T.			T.	2.52
Atchison	Missouri			1.38		.38						.02	.13									.16				1.03	.54	.15					3.79
Beloit	Solomon	.45	1.06	.08			.03					.09	.22	.47			T.									T.	.02		T.				2.42
Blakeman	Republican		.67	.05	.20	.12								.03		.27			.04							.55	.26				.37	.02	2.58
Blue Rapids	Blue		.25	.02			.36						.22													.58	.05	1.01	.34				2.83
Centralia	do	.15	.15	T.		.32							.14			T.					.02					.84	.50	T.	.13				2.25
Chapman	Smoky Hill	1.00	2.00			.20						.36									.82		T.										4.38
Clay Center	Republican		.12	.16		T.					T.	1.25														.25							1.78
Colby	do	1.61			.05	.15					.06	.18		.01	.04	.40									.35	.04		.05			.35		3.29
Concordia	do	.01	.30			T.					.01	.32	.08	.07		.01					.45					.05	.02		.01				1.33
Densmore	Solomon		1.42										.10		T.				T.					.07		.26				T.			1.85
Dresden	Republican	.15	1.05		T.	T.					.17		T.	.26		.03									.04	.62	T.		T.		.97	T.	3.29
Ellsworth	Smoky Hill	.72	.55	.34		.20								T.		T.					.77				.05	.03	.45		.03				3.14
Emmett	Kansas		.43	.12		.51					T.		.42									.70			.47	.08		.37				3.10
Enterprise	Smoky Hill		.13	2.30		.09							.67									.38			.08							3.65
Eskridge	Osage	.05	.23	2.03		.40					T.		.16				.12					.30			.27	T.		T.				3.56
Farnsworth	Smoky Hill	.08	.21		.04						.16	.10		1.13		.21							T.	.01	.24	.03		.18		.14		2.53
Fort Scott	Osage	.22	.35	.08			.07					T.													.05	.14	.07		.03				2.83
Frankfort	Blue		.12	.01		.37							.30								T.		1.82			.10	.37	.03	.12				1.42
Garnett	Osage	4.14	.94		.09	.34							T.				T.					.01				.13	.01		.03				5.69
Goodland	Republican	1.43	.03	.09	.28	.20					T.	.31	.17						.39					.17		.73			.90		.88		5.58
Gove	Smoky Hill	.75											.55		T.	.60										T.	.45			T.	.80		3.15
Hanover	Blue		.17	.04		T.	.04						.26							.04	.03						.02	.32	T.				0.92
Harrison	Republican	T.	.57										T.			T.			.21		.17				.92	.31							2.18
Hays	Smoky Hill	.03	.26								T.	.06		.40		T.						.03				T.		.04		.06			0.88
Hill City	Solomon	T.	.46								.03	.04	.02	.10		T.									.38					.04	T.		1.07
Horton	Kansas		.08	.05		.11							1.00									.10			.96	1.08	.10	.14	.07				3.69
Hoxie	Solomon	.20	1.40	.95	T.						T.	T.		.10	.43	.27									T.	.93			T.		.53	T.	4.81
Lawrence	Kansas		.06	1.00		.08							.06	T.			.34	.01			.32					.49	.14						3.10
Leavenworth	Missouri	.02	.90			.44						.12				1.65									1.07	.10	.15	.09	.10				4.64
Lebanon	Solomon	T.	1.25																						1.35	.45							3.05
Leoti	Smoky Hill	.29			T.						.54			.20	1.34	1.51								.06	.03	.61	.08				.30	.11	5.07
Lincoln	Saline	.79	.40	.42		.03					.37		.13			T.					1.18					.10	.13						3.55
Lindsborg	Smoky Hill																																
McCracken	do	.14	2.58								.20		.10	.14				.82			.16					.10	.06	T.				.15	4.13
Minneapolis	Solomon	.15	1.59	.23		T.				T.	T.	.55	T.			T.										.07			.19		T.		2.84
Moran	Osage		1.17			T.	.20				T.						T.						.50										2.13
Natoma	Saline										.60				.40					.50													1.50
Norton	Republican	.05	.76	T.	T.						.08	T.		.39	.14				.05		T.		.06	T.	.48			.03				T.	2.04
Oberlin	do	.23	.66	.31	.02	.22					.04				T.	.07			.07						.34	.15				1.40	.04	3.55
Oketo	Blue		.21		T.	.07							.01			T.			T.		.02	T.	T.		T.	T.	.10		T.				0.41
Olathe	Kansas		.11	2.35		.06	.01				T.	.04	.09				.56				.09	.38				.20	.41		.02				4.32
Ottawa	Osage		.20	.74			.29						.08				.18				.13							.07					1.69
Phillipsburg	Solomon	.04	.50	.01	T.						.05		.15	.09		T.			.50		T.					.20	.08		.24				1.86
Plainville	Saline										.22		.12		.25		.02																0.61
Pleasanton	Osage		1.02	.66													.48										.90		T.				3.06
Quenemo	do	T.	.32	.96		.24							T.				T.					.56				T.	.30		T.				2.38

TABLE 2.—*Daily precipitation for July, 1912. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kansas—Contd.																																	
Republic	Republican	T.	.15											.41				.23	.02		.25					.53	.03						1.62
Russell	Smoky Hill	.10		4.22							.15			.07		T.					T.					.19						4.73
Russell Springs	do	.18	T.		T.						.36	T.		.18	.02	1.50								.12	.50	.15		.12	.05		.25	T.	3.43
St. Francis	Republican	1.75			.75							.23			T.				.62		.18					1.81	1.61		T.		1.30	.03	6.65
Salina	Smoky Hill	.77	.81	.20		.01					.11		.10								.20						T.		.06				2.26
Scott	do	.17			T.						.50			1.28		.15									.15	.13					.87	.05	3.30
Smith Center	Solomon	T.	.50		.05						.04			T.					.06						.40	.18							1.23
Topeka	Kansas	.01	.22	.21		.13	T.				T.		.16				.02				.80					.45	.09		.22				2.31
Tribune	Smoky Hill		T.	T.	.06					.27			.02		1.00	1.00									.50	.20	.16		.11		.60	.30	.50	4.72
Valley Falls	Kansas		.40	.20			.21					T.	.22									1.60					.25	.12		.28				3.28
Vinland	do		.29	1.78		.60											.46					.24						.48		.08				3.93
Wakeeney	Smoky Hill	.03	.14	.16							.08			.61		T.		T.								.55			T.		.27			1.84
Wallace	do		.24		.04						.10			.13		1.44		.06	T.							.19			.02		.39			2.61
Wamego	Kansas		.10	.15		.55					T.		1.25								.65					.20	.10		.55					3.55
Missouri.																																	
Amoret	Osage		.69	1.20													.47			.21						T.	.22						2.58
Appleton City	do	1.25	.33																														1.79
Arlington	Gasconade	.15		T.				.35				.50					.27	.15	T.				.10			.10				T.			1.62
Arthur	Osage			.22			T.				T.							T.				.35	.55		.10		.43		T.				1.65
Avalon	Grand				.44								.08				.55											.30					1.37
Bagnell	Osage	.30		.01	.60							.62						.59					.15			.04			.02				2.33
Bethany	Grand												.30	.05					T.			.84						.67	T.				1.86
Bolivar	Osage		.28								.77					.14	2.75					.37											4.31
Boonville ‖	Missouri	.42		.08	.68			.04					.04	T.				.47					.03			.73			.11	.07			2.67
Brunswick ‖	Grand			.06		.71		.12					.36	T.	*		.20	.12											.27				1.84
Clinton	Osage			.70													.10	.10															0.90
Columbia	Missouri	.20		1.20			T.				T.		T.				.15					.04	.20			.05		.01	.03		T.		1.88
Conception	do		.03				.20												T.		.40	.46			T.		T.	T.	T.		T.		1.09
Crocker	Gasconade		T.								1.23							1.10				.13	.07			T.			T.				2.53
Eldon	Osage		.07	.44							.75							.62				T.											1.88
Eldorado Springs	do	T.	.35	.15													T.	T.					1.07			.22	.12		.19	T.			2.10
Fayette	Missouri			1.64			.18						T.				.32									.09		.03	T.				2.26
Fulton	do	.05		.93	.01		.21	.01			.15		.01	.09		.03		.04															1.53
Glasgow ‖	do	.32		T.	1.10			.06					.08					.24				.02				T.							1.82
Grant City	Grand	T.	T.				T.							.31		T.	T.				.44				.06			.55	T.				1.36
Harrisonville ‖	Osage	T.	.10	.87			T.	.01				T.	.16	T.			.04	.34				T.	.05			.06	.12	.10		.10			1.95
Hazelhurst	Grand			.31			T.				.20		.10	.05			.40		T.			T.	T.					.21			T.		1.27
Hermann ‖	Missouri		.52	.06	1.12			.62	T.			.80		.01				.34					.66	T.		.06				T.		T.	4.19
Houston	Gasconade	T.	.17					.73			.10	.25						1.00				1.75	1.60						.35			.05	6.00
Jefferson City ‖	Missouri		.27	.30	.20			.31	.12			.25						.20					.55			.22							2.42
Kansas City	do		.02	1.75									.13	.01			.67				.03	.05	.01		.06	.27	.11		.19				3.30
Kidder ‖	Grand			.15	.67	1.75											.52					.05		.09							.03	3.26
Lamonte	Missouri		T.	.61													.10									.75		T.	.10				1.56
Lebanon	Osage	.03	.05								1.20					1.05		1.15						.02									3.50
Lexington ‖	Missouri			.38	.90									.01			.12	.22				.05				.70				.12			2.50
Liberty	do			1.31			.02					T.		T.			1.35						.45			2.20							5.60
Lockwood	Osage																																
Marshall	Missouri	.42		1.31			.63						.49				.50				.10	T.				.92		.72	T.				5.09
Maryville ‖	do			T.			.15							.10						.08		.75						.05		.04			1.17
Mount Vernon	Osage		1.69								.05					.45	T.	.08				T.	T.			.12		.08	.45		.70	3.62
Nevada	do		.32	.29			.12				.35	.08					T.					T.	.76	.09	.45	.27							2.73
Oregon	Missouri		T.	T.			.47						T.	.04					T.		.11					.06		.03					0.71
Osceola ‖	Osage	.07	.12	.87								.30																					1.36
Pattonsburg ‖	Grand			.10																		.14											0.24
Rolla	Gasconade	T.	T.				T.				.17	.11	.02			1.24		2.13				.27				.24							4.18
St. Charles	Missouri	T.	.35	.28				.71			.41				.57			.09															2.41
St. Joseph	do		.12	.33		.91	T.					T.	.02			.02			T.		.15						.01		.10		T.		1.66
St. Louis (1)	Mississippi	.25	.01	.22				T.	.13		.57		.20		3.16			.72				.03							T.				5.29
St. Louis (2)	do	.05	.52	.27				.25			.55	.01	.36		3.17			.98				.06											6.22
Sublett	Chariton						1.00				.50		1.00	.10							.20			.34									3.14
Tarkio	Missouri		.04	.09		.90	.12					.01	.01	.10					.02		.08	.16											1.53
Trenton	Grand		.03	.15		T.						.09	.21	.04		.06			T.		.08				T.		.20	.52	T.			T.	1.38
Unionville ‖	Chariton			T.	.12			.12			.10		.52	.24	T.		.06					T.	T.			T.				.26	T.			1.42
Warrensburg	Missouri		.13	.92									.04				1.70						.13			.27			.09				3.28
Warrenton ‖	do			1.14	.90			.07		.06	.01	.86		.02				1.04					.01							T.			4.11
Warsaw	Osage		.08	.68							.02							T.					T.			.13	T.	T.	T.				0.91
Wheatland	do			2.30														1.40															3.70

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1912. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewistown.		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	96	50	76	48	82	52	78	47	83	62	79	52	76	55	64	40	73	53	63	35	68	53	54	50	54	44	79	65
2....	98	51	78	49	81	54	77	43	78	58	79	48	75	52	66	39	71	54	62	33	74	55	70	50	70	46	75	55
3....	96	50	76	59	79	53	74	50	80	55	74	53	69	55	62	40	70	53	70	34	66	56	61	52	62	40	78	50
4....	90	45	65	46	74	50	66	48	72	52	70	51	67	54	62	41	72	52	77	33	74	52	72	54	70	41	76	52
5....	88	46	71	46	79	52	77	46	75	54	72	49	77	47	64	38	74	50	81	40	75	51	66	51	72	41	78	49
6....	94	40	80	51	89	54	83	48	78	56	79	54	78	47	65	40	76	52	82	48	72	52	67	46	72	40	74	50
7....	93	44	82	51	86	60	78	50	85	58	80	55	72	55	62	42	74	54	83	47	70	49	61	45	70	40	75	54
8....	96	50	86	50	91	54	80	48	80	62	80	50	67	49	61	38	72	52	82	50	65	47	60	45	71	38	69	51
9....	98	52	71	51	86	55	76	50	75	54	78	50	70	48	66	33	76	45	82	51	72	49	73	48	74	44	70	53
10....	94	48	83	52	85	54	86	45	84	56	83	54	82	44	72	38	86	48	84	49	78	47	80	49	79	41	81	51
11....	96	50	81	56	93	50	83	56	88	60	82	55	79	50	74	43	83	52	86	53	71	53	76	52	84	41	80	52
12....	97	60	76	51	80	58	82	52	78	60	79	54	73	55	71	45	82	55	84	50	80	48	76	48	71	43	78	51
13....	99	60	84	51	92	50	85	44	92	56	82	60	88	47	76	45	93	46	80	42	85	45	84	42	85	41	88	50
14....	89	50	74	57	68	63	70	53	88	56	70	54	64	47	65	40	71	45	80	44	66	41	71	40	74	38	62	44
15....	90	67	71	50	81	47	84	46	80	44	82	48	80	43	76	38	82	45	79	45	79	46	80	54	71	40	80	48
16....	93	68	86	52	88	50	88	50	89	58	87	52	73	51	72	44	72	51	76	40	63	53	67	52	69	47	79	52
17....	97	64	61	49	61	55	83	55	67	52	85	53	67	54	70	45	60	56	73	37	66	45	58	48	57	41	64	45
18....	96	60	56	48	65	50	79	54	60	50	84	50	74	51	69	43	70	46	74	36	75	40	76	48	76	39	71	42
19....	98	62	81	52	84	55	76	56	89	56	82	59	75	59	64	49	84	60	80	45	79	47	76	53	72	45	78	49
20....	96	60	79	57	81	59	84	52	80	53	80	58	80	56	68	48	83	53	82	49	75	57	75	56	70	47	78	56
21....	98	64	86	54	87	59	89	53	90	62	85	53	85	52	71	45	87	56	78	45	82	50	82	55	77	44	73	51
22....	96	66	84	57	91	58	89	54	91	65	85	62	83	54	76	47	84	54	76	40	85	55	72	54	84	43	84	54
23....	94	67	81	57	88	64	86	49	86	64	81	61	78	57	69	44	84	52	75	34	75	55	74	46	73	42	80	55
24....	96	68	82	55	90	60	90	49	92	64	87	54	88	49	78	42	87	48	78	36	76	48	77	52	77	53	77	37
25....	94	69	78	54	84	60	89	53	90	68	89	62	93	59	82	48	92	54	84	46	82	55	87	54	82	70	81	43
26....	95	70	82	58	90	65	89	58	91	64	85	64	87	57	81	47	88	54	88	50	87	61	88	61	89	50	88	51
27....	98	68	78	58	87	60	90	57	85	65	83	64	85	54	80	46	90	60	89	50	81	55	83	58	80	47	85	55
28....	99	64	80	53	86	56	92	56	86	56	88	54	92	55	83	44	94	52	82	51	87	47	89	55	87	50	83	45
29....	96	64	85	58	93	59	85	61	90	63	89	60	89	50	81	53	90	54	80	54	90	50	90	60	86	51	86	40
30....	97	60	74	58	94	54	77	58	85	68	79	61	78	59	67	52	88	58	76	50	90	52	90	60	79	53	88	42
31....	98	64	70	58	75	60	75	53	85	56	75	57	83	48	59	48	84	52	70	48	84	54	80	60	74	48	86	44
Mns..	95.3	58.1	77.3	52.8	83.5	55.6	81.9	51.4	83.0	58.3	81.1	55.2	78.3	52.0	70.2	43.4	80.4	52.1	78.6	44.0	76.5	50.6	74.8	51.6	74.5	44.8	78.3	49.5

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City.		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.§§		Williston.		Aberdeen. §§		Ellingson.		Huron.		Kadoka.		Kimball.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	72	62	79	60	93	65	90	68	87	64	89	66	87	63	91	68	85	59	89	68	93	73	89	64	92	71	79	60
2....	78	56	78	52	78	57	77	62	75	55	84	67	76	59	86	68	79	58	82	64	86	60	82	64	79	66	76	58
3....	78	59	76	58	84	.....	80	58	76	59	80	59	74	54	81	64	83	60	87	57	84	60	89	61	86	65	79	56
4....	68	61	71	58	73	54	71	61	71	59	75	60	66	59	83	61	79	56	88	65	81	56	87	64	81	63	76	55
5....	79	54	75	56	71	59	76	60	71	53	80	60	68	57	80	63	75	57	81	64	79	59	79	60	82	65	78	56
6....	80	56	76	56	81	55	88	56	78	52	84	60	76	53	80	58	80	54	90	62	89	51	91	56	92	65	86	54
7....	78	59	77	57	80	56	83	62	77	56	73	61	77	59	93	60	79	56	95	62	90	66	94	63	92	72	80	61
8....	73	56	75	51	75	55	80	60	75	51	87	58	75	52	89	63	78	53	86	63	90	59	90	63	93	59	82	58
9....	72	52	72	47	72	46	74	52	69	45	73	56	69	49	78	61	71	49	80	60	77	58	83	60	77	62	72	56
10....	85	51	81	49	80	47	82	50	78	45	80	49	78	48	82	56	81	46	81	54	83	53	83	53	82	58	80	52
11....	82	58	78	52	81	53	83	60	82	50	83	52	76	52	83	58	85	54	85	60	93	60	88	59	90	64	89	58
12....	78	60	75	54	73	52	73	57	71	50	82	58	72	55	80	58	72	57	84	64	81	59	85	65	83	64	73	60
13....	94	58	91	57	87	50	88	51	86	49	83	52	89	57	87	53	89	48	86	54	96	56	90	54	94	60	92	56
14....	64	51	73	47	72	50	77	46	81	50	73	55	63	45	72	55	79	34	80	50	85	55	84	63	86	55	81	46
15....	82	44	79	43	78	32	76	39	76	34	70	36	77	42	73	41	77	36	72	41	80	49	75	41	76	46	78	42
16....	72	56	77	55	73	53	74	55	75	51	75	41	69	54	87	45	75	53	88	49	92	60	92	48	91	59	85	56
17....	64	58	66	41	70	47	72	50	67	50	70	50	65	48	73	56	65	47	73	56	73	52	85	54	71	56	61	52
18....	77	45	70	43	69	37	72	46	70	40	69	42	72	42	75	54	69	49	76	56	70	54	74	55	74	59	65	52
19....	82	59	82	52	81	57	80	59	77	58	62	48	78	56	62	55	79	58	62	56	82	60	69	56	74	62	77	58
20....	84	59	77	51	79	51	77	59	76	55	75	54	77	50	68	58	80	56	68	57	77	61	66	55	72	58	77	60
21....	92	56	79	52	73	50	81	59	78	52	76	54	74	53	86	54	85	54	81	61	90	59	83	59	90	60	87	58
22....	90	62	85	58	89	60	92	65	87	56	90	56	82	59	86	64	88	60	87	65	97	70	91	66	99	72	89	66
23....	82	64	80	59	81	59	87	63	82	61	87	65	78	60	89	66	82	62	88	72	91	74	88	74	94	72	83	62
24....	87	54	80	52	81	49	86	56	84	48	83	56	77	55	90	56	87	49	88	62	90	57	88	76	92	62	86	56
25....	94	62	78	55	83	50	86	59	91	54	87	55	69	52	88	60	93	57	90	61	93	60	87	62	92	66	88	64
26....	92	66	90	58	96	61	90	64	90	63	76	56	85	56	87	60	87	69	85	63	89	.....	80	61	83	67	85	62
27....	88	65	83	61	88	59	91	64	88	61	86	55	84	59	88	64	91	60	81	68	91	.....	80	65	88	69	86	63
28....	96	57	89	48	86	45	83	53	82	44	78	56	85	50	84	66	86	50	84	63	89	73	85	65	89	68	84	60
29....	90	60	91	56	87	50	84	57	81	53	82	55	83	54	91	58	86	52	91	60	93	66	90	61	94	68	86	62
30....	98	58	89	54	88	44	86	55	86	45	79	53	86	50	84	58	88	47	84	55	89	.....	83	62	87	62	83	57
31....	84	65	84	53	86	50	81	56	82	52	76	52	78	52	79	57	84	55	82	60	94	.....	86	60	87	65	86	59
Mns..	81.8	57.5	79.2	53.1	80.3	51.8[a]	81.3	56.8	79.0	52.1	78.9	54.7	76.3	53.4	82.4	58.7	81.2	53.4	83.0	59.7	86.7	60.0[a]	84.4	60.3	85.9	63.2	80.9	57.3

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1912. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.															
	Sioux Falls.§§		Water-town.§§		Yankton.		Denver.		Wray.		Alma.		Bridge-port.		Grand Island.§§		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	90	64	87	61	89	68	77	53	87	65	87	62	83	55	90	65	85	56	89	64	89	67	84	60	89	63	88	68
2	87	64	82	63	85	68	87	53	85	63	87	62	85	55	88	60	81	56	88	62	91	66	84	60	89	65	88	68
3	96	60	85	59	94	63	79	51	86	61	87	61	84	56	92	62	80	58	92	62	96	68	90	62	95	64	93	70
4	89	65	87	62	95	69	65	50	81	59	87	68	80	49	94	72	80	52	94	75	99	77	81	62	97	71	96	76
5	88	65	80	62	94	69	77	46	85	55	80	62	82	51	87	70	75	54	86	71	91	75	79	55	87	64	92	74
6	94	65	81	62	93	67	84	52	87	53	89	55	90	58	96	61	85	54	93	61	94	68	90	56	95	58	91	70
7	98	68	89	65	96	65	86	58	94	65	93	60	98	57	98	74	82	58	94	63	98	67	95	68	97	67	94	71
8	87	58	84	62	99	63	92	60	98	64	97	60	.....	.....	104	72	88	58	100	74	102	77	99	65	101	67	99	75
9	80	62	77	61	86	64	78	59	90	61	95	72	.....	.....	95	74	86	54	102	74	104	66	85	62	86	64	101	69
10	80	55	80	50	80	58	85	58	86	60	87	60	86	54	90	59	83	52	88	64	83	62	87	57	84	53	80	64
11	84	60	83	54	89	64	90	61	99	64	98	61	94	57	97	64	91	55	94	62	85	64	98	65	83	58	85	66
12	87	65	80	60	85	69	82	58	93	63	101	65	91	54	92	67	78	56	101	70	98	69	88	61	85	67	98	72
13	88	58	83	51	90	62	82	55	92	60	92	62	.....	.....	93	66	91	54	92	69	93	72	92	60	88	59	91	72
14	85	62	79	55	92	59	83	56	90	67	103	66	83	62	101	73	80	60	101	73	103	69	89	64	96	60	102	68
15	73	44	69	38	71	46	72	57	75	67	80	54	78	48	73	53	77	36	73	58	70	56	75	51	73	48	72	56
16	85	47	82	41	88	57	86	55	92	62	88	48	93	55	91	49	86	50	88	47	88	50	88	52	87	46	84	56
17	75	53	72	48	73	61	67	56	84	62	88	60	86	58	83	65	72	52	92	63	86	65	80	60	77	60	84	66
18	75	55	73	55	75	58	63	51	77	54	78	55	66	55	77	57	63	50	78	60	77	60	67	51	76	57	78	62
19	58	55	59	53	68	55	83	55	94	59	90	55	90	59	90	59	83	58	90	60	92	61	93	60	80	55	84	61
20	68	53	64	55	68	59	86	60	88	67	90	55	82	57	84	68	75	60	97	73	93	67	85	65	73	60	83	68
21	75	58	78	54	79	62	92	61	89	62	89	65	92	59	90	64	90	54	96	64	81	65	87	58	80	61	79	63
22	89	52	85	59	90	66	85	62	95	65	97	68	92	65	98	66	92	65	97	66	98	66	93	69	91	65	92	64
23	93	64	89	62	96	78	88	62	97	68	101	75	88	64	104	76	86	63	101	77	102	77	95	74	98	75	101	76
24	87	69	85	61	90	67	84	61	92	68	94	68	90	57	91	74	90	54	95	71	91	72	90	67	89	65	87	75
25	87	62	84	60	87	61	77	58	84	68	88	64	85	60	83	71	85	60	83	68	85	66	75	67	87	58	90	70
26	82	61	84	58	77	69	88	61	87	66	94	65	92	66	84	65	83	63	86	69	83	68	82	64	73	65	82	71
27	72	65	84	60	82	67	82	62	90	67	95	64	82	63	98	66	88	63	95	67	99	70	92	62	86	64	91	67
28	82	59	78	62	82	65	85	57	88	61	94	62	90	56	86	76	86	58	94	72	90	73	88	67	85	63	87	71
29	86	58	86	53	86	60	87	60	89	53	93	58	93	59	94	58	94	61	91	60	91	61	92	63	87	56	87	66
30	80	58	80	52	80	63	78	60	82	59	88	65	80	59	82	68	81	59	90	69	84	67	81	63	81	60	82	70
31	80	59	70	54	85	61	76	57	75	62	78	61	78	58	87	60	84	56	83	61	90	61	78	61	87	55	87	64
Mns.	83.2	59.5	80.0	56.5	85.0	63.3	81.5	56.9	88.1	62.3	90.6	61.9	86.2[e]	57.4[c]	90.7	65.6	83.2	56.1	91.7	66.1	91.2	66.8	86.5	61.6	86.5	61.1	88.6	68.0

Date.	Nebraska.		Iowa.						Kansas.										Missouri.							
	Valentine.		Clarinda.§§		Sibley.§§		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Union-ville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	84	63	89	62	84	61	86	68	82	63	87	64	86	68	86	64	85	63	83	65	83	66	81	68	90	61
2	83	60	90	64	83	63	87	68	85	55	93	63	88	65	88	66	94	59	84	68	85	68	82	69	88	62
3	86	59	95	66	89	61	93	70	89	60	92	66	94	64	91	65	91	61	81	67	89	66	82	69	90	65
4	76	61	99	66	91	62	94	76	85	62	93	75	92	74	91	73	89	70	91	71	89	74	91	69	94	66
5	79	56	96	67	89	69	91	73	80	54	84	67	85	69	91	67	82	62	91	68	90	70	91	76	95	70
6	92	58	91	63	89	66	91	70	89	57	92	63	86	61	87	65	91	59	88	69	87	69	89	72	94	66
7	92	68	97	61	94	62	93	69	96	66	94	68	94	68	90	67	96	59	88	69	90	73	87	69	93	62
8	92	66	98	65	85	62	96	62	104	67	100	74	99	74	94	72	100	70	91	71	93	73	90	73	95	64
9	79	55	100	69	87	62	90	68	88	62	103	75	103	77	96	75	97	71	94	73	94	74	90	74	98	70
10	80	53	87	65	78	53	80	59	86	62	88	66	82	66	87	72	86	61	90	69	89	75	85	64	88	70
11	92	60	81	57	82	55	81	64	96	62	101	64	103	66	88	66	102	66	88	65	86	69	85	68	87	56
12	82	62	100	64	81	60	92	70	96	70	103	70	106	71	98	69	102	72	89	74	93	72	87	73	90	60
13	93	54	93	69	84	57	89	66	93	63	92	72	90	73	95	76	91	65	93	75	95	77	93	75	94	70
14	80	50	103	69	93	59	98	59	96	70	102	72	105	74	98	75	98	70	95	77	96	78	93	67	98	66
15	74	40	78	58	70	45	70	52	85	56	72	60	90	61	84	68	90	55	82	71	83	68	89	72	80	63
16	91	55	90	52	81	46	83	54	85	55	89	61	85	62	84	64	86	56	77	64	78	61	82	62	81	58
17	70	54	94	54	70	50	73	62	86	62	91	66	93	69	89	65	90	65	87	66	86	67	86	68	92	55
18	72	55	83	56	73	53	75	58	76	57	80	64	83	65	82	66	80	60	84	64	80	66	85	72	85	60
19	85	59	88	57	57	54	65	54	90	60	92	63	95	64	89	62	91	60	81	60	84	63	78	64	86	52
20	72	61	98	66	64	52	72	60	88	65	98	72	99	75	95	72	96	69	91	67	93	72	88	66	95	60
21	88	58	80	62	75	57	77	61	90	66	86	69	91	70	84	72	91	66	87	74	84	73	88	75	84	64
22	94	71	95	62	83	60	89	63	90	67	97	70	99	76	96	72	98	70	90	70	94	71	85	71	90	55
23	89	70	100	65	95	62	100	77	100	72	99	78	101	76	98	76	101	74	96	76	96	79	94	75	100	60
24	89	63	96	69	85	70	91	72	94	67	97	76	104	78	97	77	101	70	96	78	96	78	96	80	93	76
25	87	64	95	63	85	61	89	65	95	65	84	68	88	75	86	69	92	66	92	69	87	71	88	77	95	65
26	77	66	90	67	84	58	79	67	90	65	90	70	90	75	81	72	96	57	88	68	81	70	84	69	90	60
27	84	66	93	62	75	60	80	66	95	61	102	70	102	71	94	70	97	65	88	65	90	71	85	66	91	62
28	87	67	93	66	83	62	87	65	90	63	94	72	104	72	95	72	99	68	89	72	92	75	94	70	95	66
29	95	67	90	55	85	54	84	58	92	59	95	67	93	68	88	70	97	65	90	67	90	69	85	74	90	58
30	84	61	87	62	78	57	82	65	86	63	92	72	94	64	92	69	88	64	91	63	91	72	88	69	91	60
31	88	61	90	55	78	54	80	59	77	61	82	60	82	67	86	65	79	63	88	61	86	66	82	67	90	56
Mns.	84.5	60.1	92.2	62.3	81.8	58.3	85.1	64.5	89.5	62.5	92.4	68.3	93.7	69.6	90.3	69.5	92.8	64.6	88.5	68.9	88.7	70.8	87.2	70.4	91.0	62.5

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT NO. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

Moderate temperature conditions prevailed throughout the month, except that over Oklahoma and the Kansas and Texas areas, from 11th to 29th, maximum temperatures were much above the normal, the readings being above 100° at many stations nearly every day. The month closed cool, but hot winds occurred in parts of Oklahoma and northern Texas during the last decade. The precipitation was well distributed but light, and in many localities was scattered and insufficient for agricultural needs. Except 0.5 inch at Winfield, Colo., there was no snowfall within the district.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

States and portions of States lying within District No. 7.	Mean temperature.	Departure from normal.	Mean precipitation.	Departure from normal.	Greatest precipitation in 24 hours.	Mean snowfall.	Number of days.				Prevailing wind direction.
							With 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	
Colorado	64.8	−1.2	3.22	+0.54	4.65	[1] 0.5	12	13	13	5	w.
New Mexico	71.7	−1.0	2.02	−1.37	2.10	0.0	7	13	15	3	sw.
Texas	81.8	+2.6	1.68	−2.46	1.81	0.0	4	20	9	2	s.
Kansas	80.6	+2.5	2.13	−1.71	2.80	0.0	6	17	11	3	s.
Oklahoma	83.2	+2.9	1.40	−1.74	2.20	0.0	3	22	7	2	s.
Missouri	78.6	+1.7	3.40	−1.02	2.77	0.0	7	18	9	4	s.
Tennessee	79.9	+0.8	4.25	+0.35	5.15	0.0	8	16	9	6	s.
Arkansas	81.3	+1.4	2.82	−1.61	5.05	0.0	6	15	13	3	sw.
Mississippi	80.8	+0.1	4.12	−0.56	3.25	0.0	10	14	10	7	s.
Louisiana	82.0	+0.7	6.63	+0.46	4.09	0.0	13	13	7	11	s.

[1] At one station.

TEMPERATURE.

Mean temperatures ranged from 0.1° to 4.4° above the normal, except in the Colorado and New Mexico areas, and in a few localities in Arkansas and Louisiana, and the Mississippi area, where there was a deficiency of 0.1° to 2.2°. In Oklahoma, the weather during July was, with two exceptions, the hottest of record. The highest temperature recorded was 111° at Bonham, Tex., and Anthony, Kans., and a maximum temperature of 110° was recorded at Ardmore and Healdton, Okla. The maximum readings were above 105° at many stations in Oklahoma and the Kansas and Texas areas on several days, expecially during the last decade. The lowest temperature recorded was 25° on the 6th, at Elizabethtown, N. Mex.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—Except in Colorado and at a few other widely scattered stations, the precipitation was below normal throughout this drainage area. Over the headwaters of the Arkansas River, in Colorado, the average from 35 stations was 3.57 inches, about 0.5 inch above the normal. The average from 47 stations in those portions of the Arkansas Valley proper that lie in Kansas and Oklahoma was 1.69 inches, about 1.8 inches below the normal. Over the Canadian Valley, the average from 70 stations was 1.84 inches, about 1.6 inches below the normal. The average from 21 stations in the Cimarron Valley was 2.24 inches, about 1.3 inches below the normal. Over the Verdigris and Neosho valleys, the average from 26 stations was 2.26 inches, about 2.0 inches below the normal. Below the Oklahoma-Arkansas line, the average from 16 stations in the Arkansas Valley proper was 1.69 inches, about 2.8 inches below the normal.

Red River and tributaries.—Over those portions of the Red River Valley that lie in New Mexico, Texas, and Oklahoma, the average from 46 stations was 1.32 inches, about 2.3 inches below the normal. Below the Texas-Arkansas line, the average from 21 stations was 4.13 inches, about 0.6 inch below the normal.

Mississippi River south of St. Louis and small tributaries.—The precipitation was above the normal in some parts of this drainage area, but generally there was a deficiency. Over the immediate Mississippi Valley, the average from 39 stations was 4.10 inches, about 0.3 inch below the normal. The average from 23 stations in the Valley of the White was 3.40 inches, about 0.8 inch below the normal. Over the Yazoo Valley, the average from 22 stations was 3.49 inches, about 1.0 inch below the normal. The average for the Valley of the Big Black was 5.66 inches, about 1.0 inch above the normal. The amounts from 20 stations in the Ouachita Valley was 3.57 inches, about 0.8 inch below the normal.

Louisiana coastal plain.—Heavy precipitation occurred in some localities in this drainage area, the average from 33 stations being 7.73 inches, about 0.7 inch above the normal.

RIVERS.

No material changes occurred in the stages of the Arkansas River. At Little Rock, the stages were below the average for July and the water was too low for navigation after the 22d.

The upper White was low throughout the month. The lower White was relatively high during the first 15 days, but a rapid and steady fall occurred after the 15th.

Except for a few slight rises, the Red River fell during the month.

The Ouachita fell steadily, except that there was a sharp rise at Camden, Ark., from the 1st to 6th.

The Mississippi River below St. Louis fell generally, except that there was a moderate rise at all stations during the second decade.

EXCESSIVE RAINS IN LOUISIANA.

By EDWARD D. COBERLY, Local Forecaster, New Orleans, La.

At this time when numerous large drainage and other engineering projects are being considered, the question of the amount and intensity of the rainfall, especially the falls for 24 hours or shorter periods, must be given serious consideration. The writer, therefore, believes that a tabulation of all monthly rainfalls of 10 inches or more and of all amounts of 4 inches or more in 24 hours in the State of Louisiana would be of interest and value.

In this connection some mention of excessive rainfall over the world in general seems to be pertinent. The greatest annual rainfall in the world occurs at Cherrapunji, India, where the average annual amount is 493.2 inches. At this station during August, 1841, 264 inches fell, and for five successive days the amount each 24 hours was 30 inches. In 1861, the total annual amount was 905.1 inches. On January 14, 1876, 40.6 inches fell in 24 hours, this being the greatest 24-hour rainfall of which there is record.

In the United States the greatest rainfall occurs along the coast of Washington and Oregon, and Gen. A. W. Greely terms Cape Flattery, the northwestern point of the United States, a maximum rain center. Some annual rainfalls in the United States exceeding 100 inches are as follows: Neah Bay, Wash., season 1865–66 (July, 1865, to June, 1866, inclusive), 140.9 inches; Tatoosh Island, Wash., 1886–87, 112.9 inches; Nevada City, Cal., 1867–68, 115.3 inches; Crescent City, Cal., 1881–82, 113.4 inches; Bowman's Dam, Cal., 1871–72, 102.2 inches; Astoria, Oreg., 1875–76, 112.5 inches; Point Pleasant, La., 1880–81, (10 months only), 102.4 inches; Baton Rouge, La., 1846, 116.4 inches; Donaldsonville, La., 1911, 124.1 inches (the greatest amount ever recorded in a calendar year in Louisiana) and for the 12 months, April, 1911, to March. 1912, inclusive, at Donaldsonville, La., 142.5 inches of rain fell; Mount Washington, N. H., 1879–80, 129.23 inches; Cape Lookout, 1877–78, 113.92 inches; and Cape Hatteras, 1877–78, 102.39 inches; Glenora, Oreg., 1893, 151.37 inches; 1896, 167.29 inches; 1897, 156.50 inches; 1902, 147.48 inches; Branscomb, Cal., 130.14 inches; Diamomd, Ga., 1889, 101.67 inches.

Some excessive monthly rainfalls are as follows: Helen Mine, Cal., January, 1909, 71.54 inches; La Porte, Cal., January, 1909, 63.52 inches; Magalia, Cal, January, 1909, 64.77 inches; West Branch, Cal., January, 1909, 63.71 inches; Woodleaf, Cal., January, 1909, 63.08 inches; Upper Mattole, Cal., January, 1888, 41.63 inches; Alexandria, La., June, 1886, 36.9 inches; Fort Barrancas, Fla., August, 1878, 30.7 inches; Neah Bay, Wash., December, 1886, 30.7 inches; Brownsville, Tex., September, 1886, 30.6 inches; Baton Rouge, La., May, 1907, 23.73 inches; Cameron, La., September, 1908, 21.47 inches; Donaldsonville, La., August, 1911, 28.50 inches (three months, June, July, and August, 1911, total amount at Donaldsonville, 59.85 inches); Franklin, La., July, 1908, 29.28 inches; Lafayette, La., May, 1907, 22.74 inches; New Orleans, La., July, 1888, 22.74 inches; Rayne, La., May, 1907, 23.17 inches.

Twenty-four hour rainfalls of 10 inches or more occasionally occur in the United States, but they are exceptional. The most remarkable rainfall recorded in the United States during 24 hours is that which occurred at Alexandria, La., June 15–16, 1886, when 21.4 inches fell. This downpour was not entirely local, since 13.3 inches fell during the same time, a few miles to the southeastward at Cheneyville (see Greely's American Weather, p. 146). Other heavy 24-hour rainfalls are: Matagorda, Tex., April 30–May 1, 1911, 15.71 inches in 10 hours; Brownsville, Tex., September 21 and 22, 1886, 11.9 inches (September 21–23, 1886, 64½ hours, 23.14 inches); New Orleans, La., April 7 and 8, 1883, 9.22 inches; April 25, 1907, 8.76 inches; Memphis, Tenn., June 8 and 9, 1877, 9.7 inches; Brackettville, Tex., October 2, 1886, 11.0 inches; Point Pleasant, La., April 5, 1885, 12.3 inches; St. Francisville, La., September 21, 1909, 13.50 inches; Burrwood, La., April 3, 1897, 9.30 inches; Cameron, La., September 18, 1908, 14.25 inches.

Following this, in tabular form, are given the monthly amounts exceeding 10 inches for the principal stations in Louisiana, for all the years of record up to and including the records for April, 1912 All amounts of 4 inches, or more, in 24 hours, so far as the records were available at New Orleans, have been tabulated and are presented herewith. The excessive rainfall at New Orleans may be considered typical of southern Louisiana, hence it has been presented in somewhat more detail than has been done for other stations, the tables showing not only all monthly amounts of 10 inches, or more, but all dates on which 1 inch, or more, of precipitation occurred in one hour or less, with the amounts, and all dates on which 2.50 inches, or more, of precipitation occurred during 24 hours, with the amounts.

The writer trusts that these data will be of value to the drainage and other engineers, and if more detailed data are desired, the readers are referred to the publications of the Louisiana section of the Climatological Service of the Weather Bureau prior to July, 1909, and since that time to the Monthly Weather Review, Climatological District No. 7, published at Washington, D. C.

ABBEVILLE, LA.

(Vermilion Parish. Elevation, 18 feet.)

Ten inches, or more, in one month.—1891: January, 11.45 inches; July, 10.50 inches. 1892: June, 12.50 inches; July, 12.74 inches. 1895: July, 11.53 inches. 1897: April, 12.40 inches. 1898: June, 11 inches. 1903: July, 10.05 inches. 1905: June, 16.10 inches. 1907: May, 16.03 inches. 1908: July, 14.70 inches. 1910: June, 10.11 inches. 1911: July, 12.26 inches.

Four inches, or more, in 24 hours.—1894: March 19, 4 inches. 1895: November 23–24, 4.35 inches. 1897: April 2, 8.75 inches. 1898: January 18, 4.65 inches; September 28–29, 4.20 inches. 1900: April 16, 4.75 inches. 1901: December 29, 5.50 inches. 1905: February 11, 4 inches. 1908: May 15, 4.60 inches; July 29, 6.50 inches. 1909: April 8, 4.40 inches; September 21, 4.72 inches.

ALEXANDRIA, LA.

(Rapides Parish. Elevation, 77 feet.)

Ten inches, or more, in one month.—1886: June, 36.9 inches. 1889: June, 14.58 inches. 1890: April, 10.55 inches; June, 11.85 inches. 1891: January, 10.03 inches; February, 11.58 inches. 1892: July, 13.40 inches. 1896: February, 14.11 inches. 1897: December, 13.59 inches. 1899: January, 10.85 inches. 1900: June, 10.42 inches. 1901: September, 11.09 inches. 1903: February, 13.87 inches. 1905: April, 14.21 inches. 1907: May, 17.61 inches. 1911: July, 12.26 inches.

Four inches, or more, in 24 hours.—1886: June, 15–16, 21.4 inches. 1892: December 11, 4.90 inches. 1896: February 2, 5.20 inches. 1897: December 3, 4.37 inches. 1899: January 6, 6 inches; December 11, 4.90 inches. 1901: September 14, 6.51 inches. 1902: May 19, 4.85 inches. 1903: February 16, 4.40 inches. 1905: March 19, 4.09 inches; April 4, 7 inches. 1910: February 17–18, 4.20 inches; May 20, 4.43 inches.

AMITE, LA.

(Tangipahoa Parish. Elevation, 130 feet.)

Ten inches, or more, in one month.—1888: August, 16.16 inches. 1893: June, 10.56 inches. 1897: August, 10.62 inches. 1898: November,

10.89 inches. 1900: February, 12.60 inches; April, 17.42 inches. 1901, July, 15.83 inches. 1903: March, 16.34 inches. 1905: February, 12.30 inches. 1906: July, 10.66 inches. 1907: May, 17.06 inches. 1908: May: 16.55 inches; July, 14.75 inches. 1909: April, 10.99 inches; May 10, inches. 1910: June, 11.14 inches. 1911: July, 10.34 inches; December, 10.95 inches. 1912: March, 10.25 inches; April, 15.47 inches.

Four inches, or more, in 24 hours.—1897: August 19, 4.10 inches. 1898: February 11, 4.30 inches. 1899: June 11, 4 inches. 1900: February 4, 4.20 inches; April 17, 8 inches; April 23, 4.05 inches. 1901: April 18, 4 inches. 1903: March 4, 4.10 inches; March 8–9, 7.90 inches. 1905: March 19, 4.50 inches; April 25, 6.25 inches; May 15–16, 4.75 inches; October 15, 4 inches. 1906: March 12–13, 4 inches. 1907: February 28, 4.85 inches. 1908: May 17, 6.64 inches. 1910: June 5, 4 inches. 1911: January 2, 5.05 inches. 1912: April 17, 5.80 inches.

BATON ROUGE, LA.

(East Baton Rouge Parish. Elevation, 60 feet.)

Ten inches, or more, in one month.—1846: March 12.30 inches; April, 17.20 inches; May, 13.20 inches; June, 16 inches; July, 14.40 inches; August, 15.90 inches. 1847: January, 11.60 inches. 1848: July, 11.80 inches; August, 12.10 inches. 1849: July, 10.92 inches. 1850: January, 16.02 inches. 1853: July, 11.18 inches. 1855: December, 10.10 inches. 1856: August, 14.05 inches. 1858: December, 11.73 inches. 1874: April, 14.18 inches. 1875: February, 11.60 inches. 1876: March, 13.20 inches. 1877: September, 18.42 inches; October, 16.75 inches. 1888: August, 12.30 inches. 1891: July, 11.44 inches. 1893: May, 10.68 inches. 1897: August, 10.70 inches. 1898: July, 10.76 inches. 1900: April, 10.85 inches. 1903: March, 10.74 inches. 1905: March 11.12 inches. 1906: July, 10.04 inches. 1907: May 23.73 inches. 1908: May, 15.62 inches; July 14.23 inches; August 10.01 inches. 1911: July, 15.92 inches.

Four inches, or more, in 24 hours.—1893: May 9, 4.67 inches; September 7, 4.21 inches. 1898: September 19, 4.04 inches. 1900: January 10, 4.93 inches: April 17, 4.65 inches. 1905: February 12, 5.10 inches. 1907: April 8, 8.10 inches. 1908: May 16, 6.60 inches; May 17, 6.30 inches. 1909: September 21, 5 inches. 1912: April 17, 4.05 inches.

BURRWOOD, LA.

(Plaquemines Parish. Elevation, 1 foot.)

Ten inches, or more, in one month.—1881: July, 10.44 inches; August, 14.16 inches; December, 11.28 inches. 1882: July, 13.68 inches. 1888: August, 13.48 inches. 1890: July, 10.58 inches. 1892: July, 14 inches. 1895: May, 10.27 inches. 1896: September, 10.69 inches. 1897: April, 11.70 inches. 1898: August, 13.39 inches; September, 18.44 inches; October, 13.47 inches. 1900: September, 10.13 inches. 1901: July, 11.29 inches; August, 14.74 inches. 1904: August, 13.31 inches. 1905: August, 10.81 inches. 1908: July, 12.90 inches; September, 14.27 inches. 1909: June, 14.62 inches; August, 13.72 inches. 1910: July, 11.48 inches; August, 10.43 inches.

Four inches, or more, in 24 hours.—1888: August 15, 5.70 inches. 1894: August 9, 4.26 inches. 1895: May 24, 4.50 inches. 1897: April 3, 9.30 inches; September 5, 5.16 inches. 1898: September 10, 4.75 inches; October 1, 11.33 inches. 1901: August 16, 7.64 inches. 1902: February 19, 4.95 inches. 1907: May 31, 4.08 inches. 1908: June 19, 4.30 inches. 1909: August 23, 5.22 inches. 1910: August 4, 4.50 inches.

CALHOUN, LA.

(Ouachita Parish. Elevation, 180 feet.)

Ten inches, or more, in one month.—1892: April, 10.06 inches. 1895: June, 13.15 inches. 1900: April, 11.89 inches. 1903: February, 10.12 inches; July, 10.66 inches. 1906: July, 11.11 inches. 1908: February, 11 inches; May, 12.03 inches. 1911: December, 16.17 inches.

Four inches, or more, in 24 hours.—1893: April 14, 4.46 inches. 1900: April 16, 6.44 inches. 1904: December 24, 4.40 inches; December 26, 4.97 inches. 1906: July 21, 5.45 inches.

CAMERON, LA.

(Cameron Parish. Elevation, 6 feet.

Ten inches, or more, in one month.—1892: June, 17.83 inches; July, 14.80 inches. 1894: August, 11.90 inches; September, 10.45 inches. 1895: June, 11.94 inches; November, 10.10 inches. 1897: January, 10.73 inches. 1901: September, 10.49 inches. 1905: June, 13.62 inches. 1906: July, 12.44 inches. 1907: May, 13.27 inches. 1908: July, 11.96 inches; September, 24.28 inches. 1911: July, 15.72 inches.

Four inches, or more, in 24 hours.—1893: July 15, 4 inches. 1894: September, 11–12, 4.30 inches. 1895: November 23, 5.20 inches. 1897: January 1, 7.65 inches. 1901: September 2, 4.17 inches. 1905: June 22, 5.78 inches; July 6, 7.15 inches. 1906: July 13, 4.57 inches: October 14, 6.40 inches. 1907: May 1, 4 inches. 1908: May 16, 6.52 inches; June 14–15, 4.12 inches; September 18, 14.25 inches. 1909: April 8, 4.84 inches. 1910: August 1, 5.12 inches. 1911: July 6, 6 inches; July 7, 4.02 inches; October 16, 4.05 inches.

CHENEYVILLE, LA.

(Rapides Parish. Elevation, 67 feet.)

Ten inches, or more, in one month.—1882: July, 11.35 inches. 1884: December, 11.93 inches. 1886: June, 26.59 inches. 1889: June, 10.19 inches. 1890; April, 13.15 inches. 1891: July, 13.11 inches. November, 11.14 inches. 1892: March, 10.71 inches; July, 11.53 inches. 1893: May, 12.57 inches. 1898: September, 10.10 inches. 1900: April, 14.36 inches; June, 10.93 inches. 1903: February, 13.28 inches; March, 11.59 inches. 1905: April, 12.97 inches. 1907: May, 20.98 inches. 1911: July, 13.53 inches; December, 14.85 inches.

Four inches, or more, in 24 hours.—1893: May, 1, 4.20 inches. 1886: June 15–16, 13.30 inches. 1898: September 30, 7.50 inches. 1900: April 16, 5.90 inches. 1903: February 15, 4.20 inches. 1905: March 29, 4.05 inches. 1907: May 30, 6.80 inches. 1908: February 12, 4 inches. 1910: August 19, 4 inches. 1911: January 1, 6 inches.

CLINTON, LA.

(East Feliciana Parish. Elevation, 113 feet.)

Ten inches, or more, in one month.—1888: August, 14.05 inches. 1890: June, 12.32 inches. 1891: July, 14.40 inches. 1898: July, 11.99 inches. 1900: April, 15.97 inches. 1901: July, 10.04 inches.; December, 11.83 inches. 1903: March, 21.47 inches. 1905: February, 13.44 inches. April, 13.28 inches; July, 12.77 inches. 1906: March, 16.18 inches. 1907: May, 18.04 inches. 1908: July, 11.07 inches. 1911: July, 10.99 inches.

Four inches, or more, in 24 hours.—1899: January 6, 4.10 inches. 1900: February 3, 4.70 inches; April 10, 4.05 inches; April 16, 5.78 inches; May 17, 4.07 inches. 1901: December 29, 5.84 inches. 1903: March 3, 8.50 inches. 1905: February 12, 4.53 inches; April 4, 4.04 inches; July 18, 7.30 inches; September 30, 4.20 inches. 1906: March 19, 5.48 inches; March 29, 4.51 inches. 1909: September 21, 5.90 inches. 1911: January 2, 4.45 inches.

COLLINSTON, LA.

(Morehouse Parish. Elevation, 65 feet.)

Ten inches, or more, in one month.—1902: March, 11.45 inches. 1904: December, 13.40 inches. 1906: September, 10.54 inches. 1908: February, 11.22 inches. 1911: December, 18.35 inches.

Four inches, or more, in 24 hours.—1904: December 24, 4.45 inches; December 27, 6.40 inches. 1906: September 26, 4.55 inches.

COVINGTON, LA.

(St. Tammany Parish. Elevation, 39 feet.)

Ten inches, or more, in one month.—1898: August, 13.76 inches; September, 14.65 inches. 1900: June, 14.18 inches. 1901: July, 10.80 inches; August, 10.61 inches. 1905: March, 10.44 inches; April, 12.03 inches; July, 14.57 inches; October, 10.06 inches. 1906: March, 10.84 inches. 1907: April, 10.07 inches; May, 15.08 inches. 1908: July, 14.97 inches. 1912: April, 15.74 inches.

Four inches, or more, in 24 hours.—1895: August 16, 4.20 inches. 1900: June 16, 4.55 inches. 1901: January 13, 4.50 inches. 1905: January 12, 4.80 inches; February 12, 4.14 inches; March 19, 4.53 inches; April 25, 9 inches; July 18, 6.03 inches; October 9, 4.17 inches. 1912: April 13, 4 inches.

DONALDSONVILLE, LA.

(Ascension Parish. Elevation, 33 feet.)

Ten inches, or more, in one month.—1888: February, 11.63 inches; August, 15.83 inches. 1890: August, 10.27 inches. 1893: September, 11.39 inches. 1894: February, 10.15 inches. 1897: April, 11.08 inches; September, 14.20 inches; November, 12.93 inches. 1900: December, 10.45 inches. 1903: February, 10.19 inches. 1906: July, 10.16 inches. 1907, May, 16.80 inches. 1908: July, 15.41 inches. 1909: June, 11.25 inches. 1910: June, 10.42 inches; September, 10.37 inches. 1911: April, 12.45 inches; June, 13.64 inches; July, 14.71 inches; August, 28.50 inches; December, 11.40 inches. 1912: January, 10.65 inches; March, 16.58 inches.

Four inches, or more, in 24 hours.—1893: June 19, 4.03 inches; September 7, 7.74 inches. 1897: April 3, 4 inches; November 28, 4.40 inches. 1898: September 20, 6.25 inches. 1899: June 10, 5 inches. 1900: April 22, 4 inches; December 27, 4 inches. 1901: January 18, 4.45 inches. 1907: February 28, 6.53 inches; May 8, 4.25 inches; October 3, 6.37 inches. 1909: April 8, 4.25 inches; September 21, 4.60 inches. 1910: December 23, 5.10 inches. 1911: January 2, 7.20 inches; April 12, 4.30 inches; May 1, 6 inches; June 23, 4 inches; August 2, 6.55 inches; August 12, 6.15 inches; October 12, 5.50 inches. December 31, 4.50 inches. 1912: March 11–12, 5.20 inches; March 24, 5.10 inches.

FARMERVILLE, LA.

(Union Parish. Elevation, 177 feet.)

Ten inches, or more, in one month.—1892: April, 10 inches. 1900: April, 12.44 inches. 1902: March, 14.34 inches. 1904: December, 10.87 inches. 1908: May, 12.48 inches. 1909: April, 10.71 inches. 1911: December, 14.48 inches. 1912: March, 11.11 inches.

Four inches, or more, in 24 hours.—1893: April 14, 4.20 inches. 1896: November 26–27, 4.09 inches. 1898: November 9, 4.20 inches. 1899: March 13, 4.14 inches. 1900: April 16, 4.20 inches. 1904: December 26, 5.40 inches. 1908: May 13, 4.04 inches.

FRANKLIN, LA.

(St. Mary Parish. Elevation, 10 feet.)

Ten inches, or more, in one month.—1892: June, 13.87 inches; July, 13.88 inches. 1893: September, 14.01 inches. 1894: August, 11.11 inches. 1895: July, 11.27 inches. 1898: August, 11.60 inches; September, 17.46 inches. 1900: April, 11.06 inches; August, 11.26 inches. 1901: July, 12.95 inches; August, 10.20 inches. 1904: July, 10.06 inches. 1905: June, 11.70 inches; July, 11.50 inches. 1906: July, 13.84 inches. 1907: May, 15.29 inches. 1908: July, 29.28 inches; September, 14.21 inches. 1909: June, 11.62 inches. 1910: July, 10.89 inches. 1911: July, 14.33 inches; August, 18.79 inches.

Four inches, or more, in 24 hours.—1894: July 30, 4 inches; August, 14, 5.23 inches. 1895: April 27, 4.52 inches. 1896: November 29, 4.26 inches. 1898: September 20, 8.02 inches. 1900: April 23, 5.67 inches. 1901: July 24, 5.90 inches. 1903: February 9–10, 5.65 inches. 1905: April 25, 6.10 inches; June 25, 4.73 inches; July 10, 4.98 inches. 1908: July 29, 4.50 inches; July 30, 9.60 inches; September 19, 9.15 inches. 1909: April 8, 5 inches; September 21, 5.40 inches. 1911: August 14, 4:54 inches.

GRAND CANE, LA.

(De Soto Parish. Elevation, 302 feet.)

Ten inches, or more, in one month.—1904: December, 10.60 inches. 1905: April, 15.27 inches; July, 11.14 inches. 1911: December 12.62 inches. 1912: March, 10.41 inches.

Four inches, or more, in 24 hours.—None has occurred since the beginning of records, in 1904.

HAMMOND, LA.

(Tangipahoa Parish. Elevation, 44 feet.)

Ten inches, or more, in 24 hours.—1890: April, 11.16 inches. 1892: April, 10.63 inches. 1894: July, 10.46 inches. 1897: August, 13.46 inches; December, 10.81 inches. 1898: August, 10.78 inches; September, 11.65 inches. 1900: January, 10.68 inches; April, 10.55 inches. 1903: March, 10.15 inches. 1910: July, 12.48 inches.

Four inches, or more, in 24 hours.—1897: August 18, 4.45 inches. 1898: September 20, 4.36 inches; September 29, 4.20 inches. 1900: January 10, 5.23 inches; January 11, 4.53 inches. 1903: February 10, 4.25 inches; July 12, 5.50 inches. 1905: February 11, 4.32 inches; April 24–25, 4.14 inches. 1906: March 14, 4.30 inches.

HOUMA, LA.

(Terrebonne Parish. Elevation, 24 feet.)

Ten inches, or more, in one month.—1889: July, 10.49 inches. 1890: June, 12.12 inches. 1891: February, 10.87 inches; July, 10.58 inches. 1892: July, 19.71 inches. 1894: February, 10.36 inches. 1895: July, 12.45 inches. 1897: April, 10.64 inches. 1898: September, 18.70 inches. 1900: April, 10.25 inches; June, 11.16 inches; July, 11.31 inches; December, 12.02 inches. 1903: August, 11.12 inches. 1905: August, 10.52 inches; October, 11.62 inches. 1906: July, 11.62 inches; September, 10.59 inches. 1907: May, 13.45 inches. 1908: July, 19.59 inches; September, 15 inches. 1909: June, 12.68 inches. 1910: July, 15.81 inches. 1911: July, 11.90 inches; August, 12.27 inches.

Four inches, or more, in 24 hours.—1893: April 18–19, 4.72 inches. 1894: February 23, 4.50 inches; June 12, 6 inches; July 29, 4.60 inches. 1897: April 3, 6.01 inches. 1899: October 11, 4.15 inches. 1900: April 24, 7.40 inches. 1902: March 14, 4.04 inches. 1905: October 8, 8.32 inches. 1907: May 10, 4.66 inches. 1908: July 30, 5.41 inches.

JENNINGS, LA.

(Calcasieu Parish. Elevation, 30 feet.)

Ten inches, or more, in one month.—1898: September, 13.85 inches. 1899: January, 14.01 inches. 1900: June, 11.20 inches. 1902: September, 10.94 inches. 1903: March, 10.75 inches. 1905: June, 10.75 inches. 1907: May, 21.73 inches; October, 14.26 inches. 1908: July, 10.57 inches. 1909: August, 11.42 inches. 1911: July, 13.03 inches; December, 12.04 inches.

Four inches, or more, in 24 hours.—1898: January 18, 4.46 inches; September 28, 9.05 inches. 1899: January 5, 5.65 inches; May 22, 4.10 inches. 1900: December 22, 6 inches. 1902: September 28, 4.05 inches. 1906: June 26, 4.59 inches. 1907: May 23, 4.17 inches; October 30–31, 6.33 inches. 1909: August 2, 4.28 inches.

LA FAYETTE, LA.

(Lafayette Parish. Elevation, 36 feet.)

Ten inches, or more, in one month.—1889: June, 12.40 inches. 1891: July, 12.03 inches. 1892: June, 13.97 inches; July, 13.12 inches. 1898: June, 13.01 inches; August, 10.99 inches; September, 12.20 inches. 1900: July, 12.65 inches. 1903: July, 11 inches. 1905: February, 10.26 inches; June, 18.52 inches. 1907: May, 22.74 inches. 1908: July, 13.17 inches. 1910: July, 10.90 inches. 1911: July, 11.09 inches; December, 11.83 inches.

Four inches, or more, in 24 hours.—1896: October 27, 4 inches. 1898: September 30, 4.10 inches. 1905: February 12, 4.52 inches; April 25, 5.07 inches; June 23, 4.87 inches; June 26, 5.50 inches. 1907: May 8, 9.09 inches; May 10, 4.09 inches. 1908: July 31, 4.22 inches. 1909: September 21, 5.09 inches.

LAKE CHARLES, LA.

(Calcasieu Parish. Elevation, 22 feet.)

Ten inches, or more, in one month.—1891: January, 13.20 inches. 1892: June, 13.50 inches; July, 14.20 inches. 1893: August, 11.25 inches. 1894: June, 10.08 inches; August, 10.50 inches. 1895: June, 11.94 inches; November, 12.57 inches. 1897: January, 10.95 inches. 1899: January, 12.32 inches. 1900: June, 10.10 inches; October, 10.50 inches. 1903: February, 11.10 inches. 1904: July, 10.85 inches. 1906: July, 11.56 inches; October, 10.60 inches. 1907: May, 21.45 inches. 1908: July, 11.45 inches. 1909: August, 10.12 inches. 1910: June, 10.11 inches; July, 11.89 inches; August, 10.63 inches. 1911: November, 15.65 inches.

Four inches, or more, in 24 hours.—1893: March 20, 6 inches; May 2, 4 inches; August 1, 4 inches. 1895: November 23–24, 10 inches. 1897: January 1, 4 inches. 1898: January 19, 4 inches. 1900: June 3, 4.90 inches; October 25, 7 inches. 1903: June 9–10, 4.93 inches. 1905: June 23, 4.03 inches. 1906: October 5, 4 inches; October 15, 4 inches. 1907: May 30, 4.30 inches; October 30–31, 5.30 inches. 1910: July 12–13, 4.18 inches; August 14–15, 4.89 inches. 1911: January 2–3, 4.20 inches.

LAKESIDE, LA.

(Cameron Parish. Elevation, 9 feet.)

Ten inches, or more, in one month.—1905: June, 11.01 inches. 1906: July, 11.61 inches. 1907: May, 20.07 inches. 1908: July, 11.99 inches. 1910: June, 15.03 inches; July, 12.30 inches. 1911: December, 10.64 inches.

Four inches, or more, in 24 hours.—1902: May 13, 4.05 inches. 1903: September 12, 7.20 inches. 1905: July 6, 4.10 inches. 1907: May 7, 5.30 inches; May 23, 4.60 inches; September 16, 4.35 inches; November 20, 4.43 inches. 1910: June 29, 4 inches.

LAWRENCE, LA.

(Plaquemines Parish. Elevation, 6 feet.)

Ten inches, or more, in one month.—1892: July, 12.33 inches. 1898: August, 10.27 inches; September, 15.29 inches. 1899: June, 10.91 inches. 1900: July, 12.38 inches. 1901: July, 10.82 inches; August, 10.26 inches. 1903: July, 10.31 inches. 1907: May, 10.05 inches; September, 15.63 inches. 1908: July, 12.32 inches; August, 14.80 inches; September, 18.01 inches. 1911: April, 11.97 inches; August, 12.31 inches; December, 16.66 inches.

Four inches, or more, in 24 hours.—1894: April 24–25, 4.50 inches; August 9, 5.27 inches. 1895: May 24, 4.45 inches; July 20, 4.55 inches. 1898: February 17, 5.76 inches. 1901: April 17, 4 inches. 1908: July 30, 4.40 inches; August 10, 4 inches. 1909: June 3, 4.65 inches. 1911: December 20, 5.80 inches; December 23, 6.04 inches. 1912: January 9, 5.07 inches.

LIBERTY HILL, LA.

(Bienville Parish.)

Ten inches, or more, in one month.—1887: July, 11.15 inches. 1889: June, 10.35 inches. 1895: June, 10.46 inches. 1897: December, 10.17 inches. 1904: December, 14.09 inches. 1905: July, 10 inches. 1911: December, 13.01 inches. 1912: March, 11.74 inches.

Four inches, or more, in 24 hours.—1894: March 19, 4.40 inches. 1896: April 12, 4 inches. 1897: October 30, 5.01 inches. 1899: March 13, 4.40 inches. 1901: January 10, 4 inches. 1904: December 23, 4.25 inches; December 26, 9.51 inches. 1907: July 12, 6.02 inches.

LOGANSPORT, LA.

(De Soto Parish. Elevation, 192 feet.)

Ten inches, or more, in one month.—1904: December, 10.60 inches. 1905: July, 15.93 inches. 1907: November, 10.32 inches. 1911: April, 12.61 inches; December, 11.34 inches.

Four inches, or more, in 24 hours.—1907: November 19–20, 5.10 inches.

MELVILLE, LA.

(St. Mary Parish. Elevation, 45 feet.)

Ten inches, or more, in one month.—1886: April, 10.10 inches. 1890: April, 12.45 inches. 1891: January, 12.36 inches. July, 10.38 inches. 1897: August, 10.70 inches. 1900: April, 10.98 inches. 1903: March, 15.68 inches. 1904: July, 11.63 inches. 1905: February, 10.11 inches; April, 18.90 inches. 1906: March, 15.63 inches; July, 10.30 inches. 1907: May, 19.90 inches. 1908: August, 10.05 inches. 1910: 10 inches. 1911: April, 11 inches; December, 13.67 inches.

Four inches, or more, in 24 hours.—1893: May 7–8, 4.04 inches. 1894: March 16, 4 inches. 1896: May 3, 4.50 inches. 1897: August 18, 4 inches. 1899: December 11, 5 inches. 1900: February 4, 4.20 inches. 1903: March 3, 4.40 inches. 1905: April 25, 6.60 inches; April 30, 6.10 inches. 1906: March 14, 4.70 inches; March 19, 5.60 inches; October 5–6, 4.02 inches. 1908: May 17, 4.95 inches. 1909: February 15, 4 inches; September 21, 6.90 inches. 1911: April 11–12, 5.30 inches.

MINDEN, LA.

(Webster Parish. Elevation, 194 feet.)

Ten inches, or more, in one month.—1890: September, 10.63 inches. 1892: April, 10.44 inches; December, 10.50 inches. 1904: December, 10.66 inches. 1905: April, 11.21 inches; July, 11.27 inches. 1908: May, 14.73 inches. 1911: April, 12.65 inches; August, 10.70 inches; December, 15.17 inches. 1912: March, 11.22 inches.

Four inches, or more, in 24 hours.—1904: December 27, 6.30 inches. 1905: July 24, 5 inches; August 14, 5 inches. 1908: May 13, 4.35 inches. 1910: August 13, 4 inches.

MONROE, LA.

(Ouachita Parish. Elevation, 82 feet.)

Ten inches, or more, in one month.—1886: January, 10.17 inches. 1887: July, 12.27 inches. 1890: June, 11.84 inches. 1892: April, 10.63 inches. 1894: 10.48 inches. 1897: December, 10.92 inches. 1904: December, 11.03 inches. 1906: July, 12.20 inches. 1909: May, 10.33 inches. 1911: December, 18.21 inches. 1912: March, 10.35 inches.

Four inches or more in 24 hours.—1894: March 19–20, 5.65 inches. 1904: December 24, 4 inches; December 27, 4.70 inches.

NATCHEZ, MISS.

(Adams County. Elevation, 206 feet.)

Ten inches, or more, in one month.—1890: March, 10.05 inches. 1891: March, 10 inches; November, 10.30 inches. 1892: March, 10.40 inches. 1899: January, 11.05 inches. 1900: April, 19.15 inches. 1903: February, 14.25 inches. 1904: July, 10.53 inches. 1906: March, 12.01 inches. 1907: May, 16.61 inches. 1908: February, 11.41 inches. 1909: May, 10.85 inches. 1910: May, 11.64 inches. 1911: July, 15.50 inches; December, 17.51 inches.

Four inches, or more, in 24 hours.—1896: February 2, 5.50 inches. 1899: December 11, 4 inches. 1900: April 16, 6 inches; April 17, 6.75 inches; November 20, 5.75 inches. 1901: January 10, 5 inches. 1903: February 16, 5 inches. 1905: December 22, 6 inches. 1906: March 19, 6.14 inches. 1907: May 15, 6.24 inches. 1909: May 26–27, 4.63 inches; June 1–2, 4.24 inches.

NEW IBERIA, LA.

(Iberia Parish. Elevation, 15 feet.)

Ten inches, or more, in one month.—1886: April, 10.34 inches; June, 12.52 inches. 1888: August 12.73 inches. 1891: July, 10.01 inches. 1892: June, 10.09 inches; July, 13.12 inches. 1898: June, 13.10 inches; August, 10.99 inches. 1899: June, 10.90 inches. 1900: August, 12.65 inches. 1901: April, 10.30 inches. 1905: June, 12.75 inches; July, 10.58 inches. 1906: July, 11.27 inches. 1907: May, 17.22 inches. 1908: July, 20.85 inches. 1909: June, 10.35 inches; September, 10.60 inches. 1911: July, 12.84 inches.

Four inches, or more, in 24 hours.—1892: May 9, 4.30 inches; June 22, 4.77 inches. 1893: September 7, 5 inches. 1896: April 14, 7.90 inches. 1898: January 18, 5.15 inches. 1899: June 5, 4.35 inches. 1900: August 6, 6.50 inches. 1901: April 17, 6 inches. 1908: July 29, 5.05 inches; July 30, 6.85 inches. 1909: September 20, 6.50 inches. 1911: June 22, 6.20 inches.

NEW ORLEANS, LA.

(Orleans Parish. Elevation, 51 feet.)

Ten inches, or more, in one month.—1843: June, 14.57 inches. 1846: April, 10.70 inches. 1849: July, 12.92 inches. 1853: July, 11.51 inches; August, 16.12 inches. 1868: July, 15.51 inches; October, 13.36 inches; December, 10.24 inches. 1873: May, 18.68 inches. 1874: April, 13.62 inches; July, 12.93 inches. 1875: February, 13.85 inches; March, 10.84 inches. 1876: March, 11.32 inches. 1877: September, 13.31 inches. 1879: August, 10.44 inches. 1880: July, 11.22 inches. 1881: January, 11.15 inches. 1883: January, 10.63 inches; April, 14.20 inches; June, 12.05 inches. 1885: September, 13.55 inches. 1887: June, 11.33 inches. 1888: March, 11.21 inches; August, 22.74 inches. 1892: April, 10.44 inches. 1894: February, 11.06 inches; July, 11.51 inches. 1898: September, 13.90 inches. 1900: April, 10.69 inches. 1901: July, 10.71 inches. 1903: February, 10.20 inches; March, 14.61 inches. 1905: September, 11.09 inches; December, 14.43 inches. 1907: April, 13.18 inches; May, 14.74 inches. 1908: July, 11.03 inches; September, 10.70 inches. 1911: April, 13.76 inches. 1912: March, 10.81 inches.

Dates on which 1 inch or more of precipitation occurred in 1 hour or less at New Orleans, La., 1871 to 1911, inclusive:

1871—June 30 (1 hour)	1.10
July 31 (1 hour)	1.16
1872	None.
1873—May 20 (1 hour)	1.47
1874	None.
1875	None.
1876	None.
1877	None.
1878	None.
1879—Apr. 16 (1 hour)	1.00
Aug. 13 (1 hour)	1.00
1880—Aug. 3 (1 hour)	1.17
1881—June 6 (1 hour)	1.30
July 3 (1 hour)	2.48
1882—July 16 (1 hour)	1.30
1883	None.
1884—July 4 (1 hour)	1.00
Oct. 21 (1 hour)	1.00
1885	None.
1886	None.
1887	None.
1888—Feb. 23 (1 hour)	1.27
May 24 (1 hour)	1.25
June 6 (1 hour)	2.00
Aug. 20 (1 hour; estimated)	3.00
Aug. 24 (1 hour)	2.56
Oct. 22 (1 hour)	2.00
1889—June 26 (1 hour)	1.19
June 30 (1 hour)	1.50
July 6 (15 minutes)	1.40
July 6 (1 hour)	1.95
July 9 (1 hour)	1.04
July 12 (1 hour)	1.20
July 13 (30 minutes)	1.15
Sept. 25 (30 minutes)	1.39
1890—Apr. 17 (45 minutes)	1.70
June 22 (30 minutes)	1.25
July 7 (30 minutes)	1.00
Sept. 10 (1 hour)	1.05
Oct. 15 (1 hour)	1.50
Dec. 25 (1 hour)	1.25
1891	None.
1892—Apr. 21 (2 hours)	2.90
Apr. 22 (1 hour)	1.06
May 9 (1 hour)	1.13
July 7 (1 hour)	1.26
Aug. 16 (1 hour)	1.07
1893—Apr. 19 (1 hour)	1.40
Nov. 26 (2 hours)	2.00
Dec. 12 (45 minutes)	1.00
1894—Apr. 24 (55 minutes)	2.18
July 14 (52 minutes)	1.75
July 16 (1 hour)	1.37
Aug. 13 (1 hour)	1.70
Aug. 18 (50 minutes)	1.13
1895—Jan. 7 (1 hour)	1.12
Apr. 2 (1 hour)	1.23
May 24 (1 hour)	1.10
June 9 (1 hour)	1.25
June 18 (50 minutes)	1.44
1896—Mar. 10 (1 hour)	1.09
Mar. 18 (1 hour)	1.55
Apr. 9 (1 hour)	1.57
Apr. 14 (1 hour)	1.11
June 21 (1 hour)	1.14
1896—Sept. 2 (1 hour 20 minutes)	2.15
Oct. 27 (1 hour)	1.00
1897—July 17 (1 hour)	1.32
1898—June 28 (1 hour)	1.00
July 7 (1 hour)	1.21
Aug. 3 (30 minutes)	1.01
Aug. 5 (1 hour)	1.80
Sept. 10 (1 hour)	1.60
Nov. 9 (1 hour)	1.09
1899—Mar. 30 (42 minutes)	1.44
July 25 (1 hour)	1.32
1900—Feb. 12 (45 minutes)	1.00
Apr. 17 (27 minutes)	1.18
June 19 (32 minutes)	1.11
July 18 (32 minutes)	1.04
Oct. 7 (1 hour)	1.14
Dec. 28 (55 minutes)	1.02
1901—Apr. 17 (1 hour)	1.56
June 4 (1 hour)	1.08
July 15 (22 minutes)	1.19
July 18 (23 minutes)	1.50
July 19 (1 hour)	2.07
Aug. 22 (1 hour)	1.01
Sept. 16 (1 hour)	1.48
Nov. 22 (1 hour)	1.67
1902—July 12 (22 minutes)	1.06
July 15 (1 hour)	2.00
Aug. 3 (1 hour)	1.34
Sept. 22 (1 hour)	1.05
Nov. 25 (1 hour)	1.05
Dec. 15 (1 hour)	1.07
1903—Feb. 13 (1 hour)	1.71
Mar. 14 (1 hour)	2.74
Mar. 14 (2 hours 18 minutes)	5.75
June 22 (28 minutes)	1.42
July 4 (36 minutes)	1.33
Aug. 22 (20 minutes)	1.09
Aug. 22 (29 minutes)	1.41
Aug. 25 (20 minutes)	1.00
Aug. 30 (42 minutes)	1.00
Sept. 12 (45 minutes)	1.00
1904—Mar. 17 (53 minutes)	2.14
May 7 (45 minutes)	1.09
June 7 (27 minutes)	1.00
June 27 (34 minutes)	1.30
July 6 (20 minutes)	1.08
July 11 (38 minutes)	1.81
Aug. 25 (45 minutes)	2.18
1905—Mar. 19 (1 hour 9 minutes)	2.01
Apr. 24–25 (1 hour)	1.21
June 4 (1 hour)	1.08
June 21 (1 hour)	1.02
Sept. 6 (1 hour)	1.52
Sept. 7 (1 hour)	1.00
Sept. 30 (1 hour)	2.44
Nov. 9 (1 hour)	1.00
Dec. 2 (1 hour)	1.05
Dec. 14 (1 hour)	1.53
Dec. 28 (1 hour)	1.00
1906—Mar. 14 (1 hour)	1.17
July 11 (1 hour)	1.60
July 18 (1 hour)	1.00
Aug. 1 (1 hour)	1.07
Aug. 12 (1 hour)	1.07
Sept. 25 (1 hour)	1.00

1906—Sept. 25 (1 hour)	1.00	1909—Sept. 20 (1 hour)	1.02
1907—Apr. 25 (1 hour)	1.45	Oct. 19 (1 hour)	1.22
Apr. 25 (1 hour)	1.00	Dec. 12 (1 hour)	1.00
Apr. 25 (1 hour)	1.18	1910—Mar. 10 (1 hour)	2.24
May 9 (1 hour)	1.22	June 24 (1 hour)	2.46
May 23 (1 hour)	1.48	June 26 (1 hour)	3.08
May 30 (1 hour)	1.91	July 4 (1 hour)	1.42
May 31 (1 hour)	1.05	July 19 (1 hour)	1.40
July 10 (1 hour)	1.23	Aug. 5 (1 hour)	1.79
July 11 (1 hour)	1.80	Aug. 25 (1 hour)	1.16
Aug. 5 (1 hour)	1.08	Nov. 27 (1 hour)	1.40
Dec. 22 (1 hour)	1.36	1911—Mar. 22 (1 hour)	3.97
1908—May 5 (1 hour)	1.00	Apr. 8 (1 hour)	1.43
Aug. 6 (1 hour)	1.01	Apr. 8 (1 hour)	2.34
Sept. 11 (1 hour)	1.28	Apr. 11 (1 hour)	1.37
Sept. 22 (1 hour)	1.00	May 1 (1 hour)	1.17
Sept. 25 (1 hour)	1.22	June 21 (1 hour)	1.01
1909—Jan. 14 (1 hour)	1.00	July 5 (1 hour)	2.18
Apr. 12–13 (1 hour)	1.00	July 31 (1 hour)	1.32
Apr. 23 (1 hour)	1.18	Aug. 20 (1 hour)	1.95
May 26 (1 hour)	1.23	Sept. 5 (1 hour)	1.09
June 2 (1 hour)	1.17	Sept. 21 (1 hour)	1.03
Sept. 13 (1 hour)	1.29		

Dates on which 2.50 inches or more of rain fell at New Orleans during 24 consecutive hours. Compiled from records of the U. S Weather Bureau, covering the period from January 1, 1871, to December 31, 1911.

1871—Oct. 2–3	2.95	1892—Apr. 21–22	7.49
Oct. 30	3.04	Aug. 15–16	3.85
Nov. 12–13	2.80	1893—Feb. 11–12	2.72
1872—Mar. 24–25	4.50	Apr. 19	2.88
Nov. 7–8	4.39	June 5–6	3.02
Dec. 18	2.54	Oct. 1–2	2.75
1873—May 5–6	3.98	Nov. 26–27	3.35
May 20	3.29	1894—Feb. 20–21	3.59
May 27–28	4.49	Aug. 13	2.58
Aug. 20–21	4.08	1895—Jan. 7–8	4.06
Nov. 4–5	2.61	May 24	4.56
1874—Apr. 16	3.84	June 17–18	2.70
July 3–4	7.52	Aug. 15–16	2.67
1875—Feb. 19	5.71	1896—Sept. 2	3.73
Mar. 11–12	2.75	Oct. 27–28	2.66
Mar. 29–30	3.81	1897—	None.
Apr. 20–21	2.90	1898—Feb. 17	2.78
Aug. 11–12	2.77	Sept. 9–10	3.01
Sept. 25	5.28	Sept. 11–12	2.77
Dec. 4	3.82	1899—June 10–11	3.68
1876—Mar. 19	3.98	July 25	2.61
Mar. 27	3.72	1900—Jan. 10–11	3.12
Apr. 7	5.51	Apr. 17	3.93
May 7–8	4.09	Apr. 22–23	4.84
Nov. 2	2.61	1901—Apr. 17–18	5.92
Dec. 31	2.59	July 18–19	4.07
1877—Mar. 1	3.02	Dec. 28–29	2.90
Sept. 17–18	7.22	1902—Mar. 14	3.11
Oct. 24–25	2.54	Apr. 13–14	3.25
Oct. 29–30	3.52	Sept. 23–24	3.01
1878—Mar. 9	2.73	1903—Feb. 13–14	3.63
May 19	3.54	Mar. 14–15	8.66
July 21	2.74	Aug. 22	2.83
1879—Apr. 16	2.82	1904—Mar. 17–18	2.92
Aug. 13–14	2.60	1905—Feb. 11	2.58
1880—Mar. 8–9	3.36	Mar. 19–20	5.83
1881—Jan. 3	2.82	Sept. 27–28	3.39
July 3	3.25	Sept. 30	2.57
Nov. 6	2.99	Oct. 8–9	4.30
Dec. 13–14	2.32	Nov. 9–10	2.57
1882	None.	Dec. 2	2.72
1883—Jan. 18–19	3.71	Dec. 13–14	3.16
Mar. 24	2.60	Dec. 27–28	4.36
Apr. 7–8	9.22	1906—Sept. 25–26	4.10
June 8–9	2.68	1907—Apr. 21–22	3.42
1884—Apr. 5	2.96	Apr. 25	8.76
1885—Jan. 4–5	2.62	May 9–10	3.19
Sept. 20	2.78	May 23–24	2.98
Sept. 25–26	3.23	May 30–31	5.06
Dec. 12–13	3.40	Dec. 21–22	3.41
1886—Jan. 14–15	4.28	1908—Mar. 22–23	2.75
Apr. 27–28	2.72	May 5–6	3.40
1887—June 29–30	5.48	July 29–30	3.62
Sept. 26–27	2.88	1909—Feb. 9	2.63
Oct. 18–19	3.19	Apr. 7–8	4.34
1888—Feb. 20–21	2.72	June 2–3	4.78
Feb. 23–24	4.21	Sept. 19–20	4.45
June 6	2.86	Dec. 11–12	3.69
June 26	4.44	1910—Mar. 10	3.13
Aug. 14–15	3.67	June 24	2.84
Aug. 19–20	8.90	June 26–27	3.59
Aug. 24–25	2.80	July 3–4	2.57
Oct. 22–23	4.13	Aug. 24–25	2.66
1889—June 26	2.86	1911—Mar. 22	4.16
June 30	2.76	Apr. 8	4.37
1890—June 22–23	3.08	Apr. 25–26	3.88
Oct. 15–16	2.63	July 5	2.71
1891—Feb. 14–15	2.60	Nov. 27	2.52
Dec. 14–15	2.92	Dec. 19–20	2.85
1892—Jan. 10–11	2.85		

OPELOUSAS, LA.

(St. Landry Parish. Elevation, 83 feet.)

Ten inches, or more, in one month.—1886: June, 10 inches. 1892: June, 11.41 inches; July, 13.14 inches. 1897: August, 10.56 inches. 1903: February, 10.05 inches; March, 13.94 inches. 1905: February, 12.69 inches; April, 11.07 inches. 1906: March, 14.61 inches. 1907: May, 29.70 inches. 1908: July,16.73 inches. 1909: August, 10.23 inches. 1910: July, 11.88 inches. 1911: July, 11.79 inches; December, 15.19 inches.

Four inches, or more, in 24 hours.—1900: December 28, 5.03 inches; 1901: August 21, 4 inches. 1905: April 25, 4 inches; May 22, 5.20 inches. 1906: March 19, 4.30 inches. 1907: May 8, 6.20 inches; May 24, 4.35 inches; May 30, 4.25 inches. 1908: May 17, 5.26 inches; July 31, 4.12 inches. 1909: August 3, 5.35 inches; September 21, 5.54 inches.

PLAIN DEALING, LA.

(Bossier Parish. Elevation, 268 feet.)

Ten inches, or more, in one month.—1892: December, 13.35 inches. 1898: June, 14.56 inches. 1902: June, 12.52 inches; July, 15.42 inches. 1904: December, 10.47 inches. 1905: June, 11.39 inches; December, 10.05 inches. 1908: May, 13.13 inches. 1909: December, 10.09 inches. 1911: April, 10.70 inches. 1912: March, 12.04 inches.

Four inches, or more, in 24 hours.—1892: December 12, 4.50 inches; December 16, 4 inches. 1896: September 25, 4.40 inches. 1898: June 16, 6.08 inches; November 9, 4.13 inches. 1902: June 27 and 28, 10.11 inches; July 20, 6.05 inches; July 31, 4.75 inches; 1904: December 26 and 27, 8.92 inches. 1905: June 27, 4.63 inches. 1907: April 28, 4.31. 1908: May 13, 6.16 inches. 1912: March 23, 5.30 inches.

RAYNE, LA.

(Acadia Parish. Elevation, 44 feet.)

Ten inches, or more, in one month.—1892: June, 12.13 inches; July, 13.53 inches. 1898: June, 11.90 inches; September, 14.90 inches. 1899: December, 10.87 inches. 1904: July,11.31 inches; August, 10.25 inches. 1905: April, 10.96 inches; June, 14.13 inches; July, 13.29 inches. 1907: May, 23.17 inches. 1908: July, 10.97 inches. 1910: July, 10.22 inches. 1911: December, 11.27 inches.

Four inches, or more, in 24 hours.—1896: July 6, 5.20 inches. 1897: August 20, 4.20 inches; November 28, 4.10 inches. 1898: Jaunary, 19, 6.14 inches; September 30, 8.31 inches. 1900: January 11, 5.88 inches. 1902: September 29, 4.40 inches. 1904: July 27, 4.95 inches; August 10, 4.20 inches. 1905: April 25, 5 inches. 1907: May 8, 4.10 inches; May 10, 4.11 inches: May 29, 4.57 inches.

ROBELINE, LA.

(Natchitoches Parish. Elevation, 147 feet.)

Ten inches, or more, in one month.—1897: December, 14.60 inches. 1900: April, 11.55 inches. 1905: April, 11.46 inches; July, 10.86 inches. 1906: July, 12.96 inches. 1907: May, 10.15 inches. 1909: May, 11.36 inches. 1910: May, 13 inches. 1911: July, 11.80 inches; December, 13.31 inches.

Four inches, or more, in 24 hours.—1900: February 28, 4 inches. 1901: April 11, 4 inches; September 15, 6 inches. 1903: August 12, 4 inches. 1906: July 10, 5.45 inches. 1909: May 25 and 26, 6.89 inches. 1910: May 20, 5.75 inches. 1911: July 18 and 19, 4.85 inches.

RUSTON, LA.

(Lincoln Parish. Elevation, 312 feet.)

Ten inches, or more, in one month.—1898: June, 13.26 inches. 1900: April, 12.45 inches. 1905: July, 10.35 inches. 1908: July, 10.15 inches.

Four inches, or more, in 24 hours.—1900: April 16, 5.05 inches. 1904: December 26, 4 inches. 1906: May 4 and 5, 4 inches; November 20, 4.30 inches. 1908: July 20 and 21, 4.15 inches.

SCHRIEVER, LA.

(Terrebonne Parish. Elevation, 17 feet.)

Ten inches, or more, in one month.—1892: June, 11.30 inches; July, 15.37 inches. 1895: July, 11.82 inches. 1896: June, 10.64 inches. 1898: September, 11.57 inches. 1900: June, 17.61 inches; July, 11.31 inches. 1901: July, 14.30 inches. 1904: July, 11.67 inches. 1905: October, 11.62 inches. 1907: May, 15.03 inches. 1908: July, 15.66 inches; September, 12.04 inches. 1909: June, 13.55 inches. 1910: July, 10.81 inches. 1911: July, 13.40 inches; August, 14.87 inches.

Four inches, or more, in 24 hours.—1900: April 23, 6.50 inches; June 1, 4.89 inches; June 2, 4.09 inches. 1908: July 30, 6.75 inches. 1909: September 21, 4.83 inches. 1911: April 27 and 28, 4.25 inches. 1912: March 23, 4.84 inches.

SHREVEPORT, LA.

(Caddo Parish. Elevation, 249 feet.)

Ten inches, or more, in one month.—1874: April, 10.64 inches. 1876: March, 11.67 inches. 1879: April, 10.23 inches. 1880: July, 10.97 inches;

September, 11.61 inches 1882: July, 11.38 inches. 1884: May, 14.47 inches; December, 15.55 inches. 1885: January, 12.11 inches. 1905: April, 10.97 inches; July, 13.16 inches. 1908: May, 14.11 inches. 1911: December, 10.44 inches.

Four inches, or more, in 24 hours.—1902: June 27 and 28, 8 inches. 1904: December 26, 6.87 inches. 1905: March 6 and 7, 4.92 inches; July 23, 8 inches. 1908: May 13 and 14, 8.35 inches. 1911: August 28 and 29, 5.25 inches.

SUGARTOWN, LA.

(Calcasieu Parish. Elevation, —.)

Ten inches, or more, in one month.—1896: February, 11.78 inches. 1899: January, 11.03 inches. 1900: June, 13.27 inches. 1903: February, 13.04 inches; March, 13.90 inches. 1905: April, 10.45 inches. 1907: May, 21.50 inches. 1910: July, 10.94 inches. 1911: July, 12.51 inches; December, 17.49 inches.

Four inches, or more, in 24 hours.—1899: January 5, 4.29 inches; January 6, 4.04 inches. 1900: November 19, 4.82 inches. 1902: November 4, 4.44 inches. 1906: November 21, 4.73 inches. 1907: May 23, 4.41 inches; May 30 and 31, 7.18 inches. 1908: February 12, 4.05 inches. 1910: October 4 and 5, 5.07 inches. 1911: July 5 and 6, 5.26 inches; December 14 and 15, 4.01 inches.

VICKSBURG, MISS.

(Elevation, 247 feet.)

Ten inches, or more, in one month.—1841: January, 12.10 inches. 1843: November, 11.30 inches. 1848: November, 10.45 inches. 1866: December, 12.12 inches. 1868: April, 13.01 inches; July, 14.60 inches. 1869: February, 13.69 inches; April, 14.14 inches. 1872: May, 13.23 inches; December, 10.33 inches. 1874: April, 22.74 inches. 1875: March, 14.52 inches. 1876: March, 11.21 inches. 1880: March, 11.27 inches; September, 10.51 inches; November, 14.15 inches. 1882: January, 13.83 inches: July, 10.19 inches. 1883: November, 11.53 inches. 1884: May, 11.76 inches; December, 13.52 inches. 1888: August, 11.10 inches. 1891: March, 10.57 inches. 1896: February, 10.13 inches; December, 13.27 inches. 1899: January, 10,37 inches. 1900: June, 11.33 inches. 1902: March, 12.26 inches. 1903: February, 11.45 inches. 1907: July, 10.88 inches. 1909: May, 11.82 inches. 1911: April, 11.41 inches; December, 13.77 inches.

Four inches, or more, in 24 hours.—1899: January 6, 4.46 inches; December 10, 4.22 inches. 1901: January 10 and 11, 7.03 inches; May 25, 4.66 inches. 1907: March 27, 6.32 inches. 1907: July 13, 7.99 inches. 1908: March 22 and 23, 4 inches. 1909: May 25 and 26, 4.92 inches.

TABLE 1.—*Climatological data for July, 1912. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Buena Vista	Chaffee	7,955	12	56.3	− 4.4	78	10	34	2	40	3.30	+ 1.91	0.70	0	14	11	7	13	nw.	C. A. Short.
Calhan	El Paso	6,700	5	65.6	.....	87	8†	46	4	33[a]	3.49	.....	1.60	0	13	10[a]	18[a]	2[a]	sw.	H. B. Rice.
Canon City	Fremont	5,343	24	71.9	− 1.4	94	8	49	5†	42	2.52	+ 0.74	1.36	0	9	27	2	2	nw.	U. S. Weather Bureau.
Colorado Springs	El Paso	6,098	32	65.0	− 2.8	88	8	43	5	35	2.66	− 0.16	1.15	0	16	6	20	5	n.	Colorado College.
Cripple Creek	Teller	9,396	11	.....	.....	.....	.....	.....	.....	.....	4.59	+ 0.78	1.40	0	20	.....	.....	.....	.....	F. G. Willis.
Cuchara Camps	Huerfano	8,200	3	.....	.....	.....	.....	.....	.....	.....	3.82	.....	1.98	0	9	23	6	2	sw.	George A. Mayes.
Eads	Kiowa	4,209	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Mattie A. Kerr.
Fairview	Custer	9,500	3	.....	.....	.....	.....	.....	.....	.....	3.13	.....	0.57	0	13	6	22	3	e.	Elizabeth L. Grey.
Fremont Exp. Sta	El Paso	5,850	2	56.6	.....	77	11	33	5	30	4.62	.....	1.48	0	19	10	19	2	w.	U. S. Forest Service.
Garfield	Chaffee	9,510	2	.....	.....	.....	.....	.....	.....	.....	2.40	.....	0.86	0	10	16	10	5	w.	Lloyd N. Felton.
Hamps	Elbert	5,400	19	66.2	− 1.1	90	8	41	5	43	2.20	− 0.33	0.67	0	9	13	12	6	s.	W. Hamp.
Hermit Lake	Custer	10,000	2	.....	.....	.....	.....	.....	.....	.....	3.73	.....	0.82	0	12	9	17	5	sw.	John E. Graham.
Hoehne (near)	Las Animas	5,700	20	70.9	+ 0.2	95	22	43	5	40	2.01	− 0.29	0.88	0	8	24	6	1	w.	S. W. De Busk.
Holly	Prowers	3,380	17	76.4	− 0.5	101	7†	49	4	41	2.77	− 0.07	1.30	0	8	16	12	3	se.	Holly Sugar Co.
La Junta	Otero	4,052	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred B. Mason.
Lake Moraine	El Paso	10,265	18	54.3	− 0.9	77	10	31	5	36	3.25	− 1.15	1.16	0	14	1	16	14	sw.	Clyde C. McReynolds.
Lamar	Prowers	3,592	22	77.5	− 0.2	104	8	51	5	45	3.82	+ 0.93	0.92	0	6	17	13	1	s.	J. T. Lawless.
Las Animas	Bent	3,899	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Tague.
La Veta Pass	Costilla	9,000	2	.....	.....	.....	.....	.....	.....	.....	1.98	.....	1.51	0	4	11[b]	16[b]	2[b]	w.	Clara M. Wright.
Leadville	Lake	10,248	16	53.0	− 2.2	75	17	30	6	40	2.48	+ 1.12	0.82	0	19	7	11	13	w.	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	5	68.8	.....	92	7†	41	5	45	5.40	.....	2.46	0	10	16	14	1	s.	F. L. Palmer.
Madrid	Las Animas	.....	2	.....	.....	.....	.....	.....	.....	.....	2.52	.....	0.65	0	13	.....	.....	.....	.....	Thos. Sawers.
Manitou	El Paso	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Faucher.
Marshall Pass	Saguache	10,846	9	.....	.....	.....	.....	.....	.....	.....	2.39	.....	0.40	0	15	4	12	15	.....	W. L. Williams.
Monument	El Paso	7,200	1	62.0	.....	85	11	38	6	40	3.65	.....	1.51	0	12	13	10	8	sw.	U. S. Forest Service.
North Lake	Las Animas	8,700	20	.....	.....	.....	.....	.....	.....	.....	2.47	− 0.89	1.00	0	11	18	9	3	nw.	James W. Ingmire.
Oro	Lake	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank A. Aicher.
Pueblo	Pueblo	4,734	24	72.8	− 1.4	96	8	48	5	39	2.50	+ 0.53	0.86	0	9	11	17	3	se.	U. S. Weather Bureau.
Rocky Ford (near)	Otero	4,177	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. K. Blinn.
St. Elmo	Chaffee	9,500	13	.....	.....	.....	.....	.....	.....	.....	3.25	.....	1.00	0	18	11	12	8	w.	Daniel Clark.
Salida	....do	7,035	13	62.4	− 2.8	87	10	34	6	49	3.14	+ 1.55	0.96	0	11	21	7	3	w.	M. D. L. Buell.
Santa Clara	Huerfano	8,252	17	62.6	− 0.3	86	7†	38	5	40	5.55	+ 2.16	4.65	0	6	7	23	1	.....	Lincoln G. Morris.
Sheridan Lake	Kiowa	4,065	10	.....	.....	.....	.....	.....	.....	.....	7.03	+ 3.82	3.80	0	6	.....	.....	.....	.....	Howard Gamble.
Stonewall	Las Animas	8,000	6	.....	.....	.....	.....	.....	.....	.....	4.47	.....	1.00	0	15	7	8	16	w.	G. A. Story.
Trinidad	....do	5,994	16	70.0	.....	90	7†	44	5	36	2.19	− 0.25	1.22	0	14	10	17	4	.....	Walter Dearden.
Two Buttes	Baca	4,100	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. G. Jones.
Victor (near)	Teller	10,100	8	56.8	.....	76	8†	38	5	31[d]	5.20	.....	1.97	0	10	19	11	1	w.	Fred Jones.
Vilas	Baca	3,935	21	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.62	0	3	15	15	1	sw.	Carrie Konkel.
Wayne	El Paso	.....	1	.....	.....	.....	.....	.....	.....	.....	3.31	.....	0.91	0	9	12	12	7	se.	J. C. Groff.
Westcliffe	Custer	7,864	18	62.4	+ 0.8	86	10	30	5	45	1.47	− 1.21	0.48	0	8	5	15	11	sw.	Zack Jordan.
Winfield	Chaffee	9,765	2	.....	.....	.....	.....	.....	.....	.....	2.67	.....	0.57	0.5	20	2	25	4	sw.	John G. Payne.
Woodman Sanatorium	El Paso	.....	1	65.2	.....	88	11	42	5	35	2.43	.....	0.46	0	15	27	1	3	s.	Dr. J. E. White.
Wortman	Lake	11,250	11	.....	.....	.....	.....	.....	.....	.....	2.21	.....	0.42	0	12	5	22	4	nw.	Geo. C. Wortman.
New Mexico.																				
Abbott	Mora	5,771	3	.....	.....	98	14†	.....	.....	.....	0.19	.....	0.05	0	4	18	12	1	s.	Agent E. P. & S. W. R. R.
Albert	Union	4,700	22	77.4	+ 0.3	99	10†	51	5	38	0.92	− 1.88	0.63	0	5	23	8	0	e.	Andrew Knell.
Aurora	Colfax	8,849	3	.....	.....	.....	.....	.....	.....	.....	3.29	.....	0.84	0	14	0	29	2	nw.	Miss J. Lucero.
Bell Ranch	San Miguel	4,500	8	78.9	.....	100	9	46	2	48	2.23	.....	1.16	0	9	17	10	4	se.	C. M. O'Donel.
Black Lake	Colfax	8,348	3	.....	.....	.....	.....	.....	.....	.....	3.15	.....	0.74	0	10	5	26	0	se.	Ralph T. Martinez.
Cabeza	San Miguel	5,406	3	.....	.....	95	15†	.....	.....	.....	3.33	.....	0.85	0	9	15	15	1	sw.	Agent E. P. & S. W. R. R.
Campana	....do	4,493	3	80.9	.....	103	14†	54	5	40	1.30	.....	0.48	0	4	22	9	0	sw.	Do.
Chacon	Mora	9,000	3	.....	.....	.....	.....	.....	.....	.....	3.02	.....	1.24	0	6	6	25	0	w.	Alfred Lucero.
Cimarron (near)	Colfax	6,385	8	66.8	.....	89	9	40	5	44	1.36	.....	0.57	0	6	10	17	4	sw.	William French.
Clayton	Union	5,178	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. W. W. Chilton.
Clovis	Curry	4,129	1	78.4	.....	102	14	55	3†	42	0.78	.....	0.25	0	4	22	2	7	sw.	J. H. Barry.
Cuervo	Guadalupe	4,849	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent E. P. & S. W. R. R.
Dawson	Colfax	6,396	3	70.4	.....	96	7	44	7	52	4.11	.....	1.32	0	7	5	20	6	nw.	Do.
Elizabethtown	....do	8,465	7	56.8	.....	85	13	25	6	53	2.87	.....	0.82	0	12	10	21	0	nw.	Miss M. Carrington.
Folsom	Union	6,399	12	68.6	+ 0.2	90	9	38	5	38	1.94	− 0.79	0.47	0	11	10	21	0	sw.	David Rope.
Fort Union	Mora	6,835	52	63.8	− 3.2	86	9	38	5	42	1.59	− 2.28	0.48	0	9	20	10	1	sw.	M. C. Needham.
Hayden	Union	4,444	2	74.8	.....	101	14	50	5	39	3.23	.....	1.25	0	11	7	24	0	sw.	J. B. Dickson.
Hoosier Ranch	Mora	.....	1	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.14	0	5	12	19	0	sw.	W. H. Guthmand.
Johnsons Park	Colfax	6,722	3	.....	.....	.....	.....	.....	.....	.....	2.60	.....	0.63	0	10	15	15	1	sw.	A. J. Meloche, jr.
Kappus	Quay	4,010	1	.....	.....	.....	.....	.....	.....	.....	3.23	.....	1.02	0	8	.....	.....	.....	.....	Anthony Kappus.
Lake Alice	Colfax	7,160	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Bell.
Logan	Quay	3,851	6	79.2[d]	.....	102	9	56	6	40[d]	3.90	.....	1.44	0	7	25	6	0	s.	John B. Reneau.
Lykins (near)	Roosevelt	5,000	2	.....	.....	.....	.....	.....	.....	.....	1.72	.....	0.92	0	3	22	9	0	s.	J. G. Buchanan.
Maxwell (near)	Colfax	5,894	5	.....	.....	.....	.....	.....	.....	.....	1.09	.....	0.40	0	6	.....	.....	.....	.....	Dan N. Jackson.
Melrose	Curry	4,400	4	.....	.....	.....	.....	.....	.....	.....	0.77	.....	0.27	0	3	.....	.....	.....	.....	Dr. B. M. Porter.
Miami Ranch	Colfax	6,000	4	67.6	.....	89	8†	42	5†	44	1.19	.....	0.35	0	8	9	22	0	sw.	Farmers' Development Co.
Mills (near)	Mora	5,985	1	.....	.....	.....	.....	.....	.....	.....	1.91	.....	0.80	0	5	10	7	14	sw.	J. E. La Rue.
Montoya	Quay	4,335	3	.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.18	0	1	15	14	2	s.	Agent E. P. & S. W. R. R.
Mount Dora (near)	Union	5,600	1	70.5[d]	.....	94[d]	9	40[d]	5	39[d]	2.14	.....	0.70	0	7	6	22	3	sw.	Edward F. Grygla.
Nara Visa	Quay	4,225	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George M. Rymal.
Palo Verde	Mora	5,880	1	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.55	0	6	6	25	0	sw.	G. R. Abernathy.
Pasamonte	Union	.....	3	.....	.....	.....	.....	.....	.....	.....	3.78	.....	1.34	0	10	15	16	0	w.	J. J. Heringa.
Pleasant View	Mora	.....	1	.....	.....	.....	.....	.....	.....	.....	0.61	.....	0.41	0	5	20	11	0	.....	R. W. Boulware.
Portales	Roosevelt	4,004	2	78.2	.....	100	9	53	3	39	0.92	.....	0.36	0	5	8	16	7	se.	Portales Irrigation Co.
Raton	Colfax	6,660	14	67.7	− 1.6	90	10	42	5	37	1.64	− 0.77	0.95	0	4	17	11	3	w.	Humphrey & Wiseman.
Rociada	San Miguel	8,200	8	61.4	.....	84	5	38	14	45	0.75	.....	0.40	0	5	13	18	0	w.	J. E. Dailey.
Rosebud	Union	4,500	1	.....	.....	.....	.....	.....	.....	.....	3.11	.....	1.02	0	6	.....	.....	.....	.....	H. A. Nachtrieb.
Roy	Mora	5,884	3	.....	.....	.....	.....	.....	.....	.....	0.96	.....	0.55	0	5	6	25	0	sw.	Agent E. P. & S. W. R. R.
Roy (near)	....do	5,880	1	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.50	0	6	5	25	1	sw.	Baum Brothers.
San Jon	Quay	4,200	5	79.2	.....	100	9	50	5	39	2.98	.....	1.63	0	6	18	11	2	sw.	Jesse T. White.
Solano	Mora	5,622	3	73.0	.....	94	8†	47	4	38	0.64	.....	0.24	0	7	14	10	7	sw.	F. M. Hughes.
Springer	Colfax	5,857	20	70.4	− 0.9	98	9	40	7	53	1.77	− 1.11	0.55	0	8	18	13	0	w.	Agent A. T. & S. F. R. R.
Taylor	....do	5,661	3	70.8	.....	98	5	40	3†	58	0.77	.....	0.15	0	7	10	12	9	se.	Agent E. P. & S. W. R. R.
Trementina	San Miguel	5,000	4	.....	.....	.....	.....	.....	.....	.....	1.46	.....	1.01	0	3	14	0	17	e.	Miss Alice Blake.
Tucumcari	Quay	4,194	7	79.7	.....	104	9	53	5	39	3.11	.....	2.10	0	10	24	7	0	s.	John F. Seaman.
Valley	Union	5,000	7	76.2	.....	99	14	46	2	41	4.11	.....	1.10	0	7	12	19	0	s.	Miss M. L. Payne.
Vance (near)	....do	.....	1	.....	.....	.....	.....	.....	.....	.....	1.77	.....	1.10	0	7	23	8	0	se.	C. E. Anderson.
Vermejo Park	Colfax	7,600	7	62.4	.....	86	13	37	4	41	5.61	.....	1.20	0	13	10	12	9	nw.	H. W. Adams.
Wagon Mound (near)	Mora	6,300	3	68.0	.....	90	9	41	5	42	1.51	.....	0.38	0	14	11	15	5	sw.	Guy L. Barnes.

TABLE 1.—*Climatological data for July, 1912. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas.																				
Amarillo	Potter	3,676	20	79.2	+ 3.1	99	30	60	16	33	1.88	− 1.29	1.03	0	9	21	10	0	sw.	U. S. Weather Bureau.
Archer City	Archer		1								0.71		0.71	0	1	29	2	0	s.	Charles H. Thuman.
Arthur City	Lamar	590	20								0.00	− 4.27	0.00	0	0	28	0	3		V. V. Bright.
Bonham	Fannin	566	9	85.8		111	29	67	1	35	1.74		0.59	0	3	15	16	0	s.	H. M. Norman.
Canadian	Hemphill	2,339	5																	Canadian Academy.
Childress	Childress	1,869	19								1.70	− 0.95	1.70	0	1	29	0	2	se.	George Baker.
Chillicothe	Hardeman	1,406	4								1.00		0.60	0	3					A. B. Connor.
Clarendon	Donley	2,719	7	82.6		104	12	61	6	36	1.73		0.80	0	4	20	6	5	se.	Whitfield Carhart.
Clarksville	Red River	442	12	85.0	+ 1.9	105	29	68	1	30	2.50	− 3.12	1.60	0	3	22	9	0		J. W. O'Neill.
Claude	Armstrong	3,397	7								1.96		1.81	0	2					Ft. W. & D. C. Ry.
Dalhart	Dallam	3,998	7	77.3		99	12	51	5	38	0.72		0.36	0	5	10	21	0	sw.	W. D. Griggs.
Denison	Grayson		12								0.75	− 3.65	0.45	0	3	22	3	6		E. B. Wilson.
Finley	Bowie		2								1.21		0.50	0	3	25	2	4	s.	Robert L. Smith.
Henrietta	Clay	915	20	86.3	+ 2.6	109	29	66	6	33	0.77	− 1.43	0.50	0	3	22	4	5	s.	C. K. Brown.
Hereford	Deaf Smith	3,750	7																	A. C. Elliott.
Memphis	Hall	2,067	7																	Ft. W. & D. C. Ry.
Miami	Roberts	2,743	6	80.9		101	7†	6	6	36	4.19		1.1	0	8	15	13	3	s.	J. E. Kinney.
Mobeetie	Wheeler		18																	Dr. W. J. Joss.
Ochiltree	Ochiltree		4																	S. J. Allen.
Panhandle	Carson	3,450	3								1.55		1.50	0	3	26	2	3		J. Sid O'Keefe.
Paris	Lamar	592	23	8.35	+ 1.1	108	29	67	1†	33	2.58	− 0.66	1.21	0	6	27	0	4	s.	Robert A. Miller..
Plemons	Hutchinson		5	78.0[a]		100	12	57[b]	6	39[b]	1.03		0.34	0	6	22	8	1	se.	C. S. Solomon.
Quanah	Hardeman	1,563	10	86.1		106	29	66	6	30	0.56	− 2.38	0.56	0	1	20	10	1	s.	William H. Crawford.
Ringo Crossing	Hopkins		2								2.98		1.54	0	3	18	4	9	sw.	H. J. Palmer.
Romero	Hartley		2	77.3		101	14	57	6†	37	2.59		1.10	0	7	12	17	2	s.	R. S. Chamberlain.
Sherman	Grayson	745	19	85.6	+ 3.3	103	29	70	3	23	0.49	− 4.21	0.24	0	3	27	2	2	s.	R. A. Gibbs.
Stratford	Sherman	3,699		77.5		98	12	52	5	36	1.56		0.75	0	6	11	19	1	s.	J. W. Elliott.
Texline	Dallam	4,964	7								3.45		2.20	0	4					Ft. W. & D. C. Ry.
Tulia	Swisher	3,501	14	80.0	+ 3.3	101	30	60	7†	38	1.58	− 2.59	0.70	0	10	8	23	0	s.	Lou Mulhall.
Wellington	Collingsworth										1.58		0.80	0	6					J. D. Camp.
Wichita Falls	Wichita	958	20																	E. F. Mittman.
Winfield	Titus		2								2.87		1.15	0	8	3	28	0	e.	J. B. Newberry
Kansas.																				
Alden	Rice	1,684	2								3.30		1.88	0	4	22	0	9	sw.	L. B. Walt.
Anthony	Harper	1,329	15	83.8		111	24	61	6	37	0.56	− 3.15	0.20	0	5	12	16	3	sw.	R. H. Beebe.
Ashland	Clark	1,951	24	81.7	+ 2.2	107	24	54	2	45	2.53	− 1.46	0.79	0	8	12	18	1	se.	C. W. Carson.
Burlington	Coffey	1,010	19	80.8	+ 2.7	105	14	60	18	37	1.19	− 2.72	0.61	0	6	4	27	0	s.	O. E. Sanford.
Chanute	Neosho	940	8	81.2		102	24	61	1	35	2.45		1.73	0	5	4	26	1	sw.	C. W. Brown.
Cimarron	Gray	2,700		77.8		99	12	55	16	37	4.89		1.55	0	8	19[b]	8[b]	2[b]	s.	C. C. Isely.
Coffeyville	Montgomery	747																		A. F. Briggs.
Coldwater	Comanche	2,090	15	81.7	+ 2.7	103	12†	57	6	35	1.36	− 2.08	0.43	0	6	21	9	1	s.	J. L. Stanley.
Columbus	Cherokee	898	22	80.0	+ 2.2	98	25†	61	1†	34	2.81	− 2.40	1.70	0	6	22	9	0	sw.	O. E. Skinner.
Coolidge	Hamilton	3,348	15	77.0	+ 0.4	105	8	50	4†	45	2.76	− 0.26	1.70	0	3	14	13	4	se.	W. R. Padley.
Cottonwood Falls	Chase	1,234	8	81.2		106	24	56	2	39	1.68		0.41	0	9	21	7	3	s.	E. B. Greene.
Council Grove	Morris	1,234	3	78.9		100	24	59	31	30	4.03		1.31	0	10	16	13	2	s.	J. P. Blackledge.
Cunningham	Kingman	1,680	28	82.6	+ 4.5	109	24	57	6	36	2.57	− 1.50	1.25	0	5	11[a]	18[a]	1[a]	s.	W. H. Morton.
Dodge City	Ford	2,513	38	78.6	+ 0.9	100	12	58	16	33	0.88	− 2.50	0.42	0	7	14	14	3	s.	U. S. Weather Bureau.
El Dorado	Butler	1,291	10			101	24				1.44		0.50	0	5	25	6	0	s.	W. Y. Miller.
Ellinwood	Barton	1,790	37	81.4	+ 3.9	105	12†	51	19	41	1.55	− 2.43	0.58	0	9	6	22	3	ne.	Martin Musil.
Emporia	Lyon	1,138	31	80.0	+ 1.7	104	24	61	31	35	2.68	− 1.05	0.79	0	9	13	17	1	s.	W. H. Boyles.
Eureka	Greenwood	1,079	16	81.1		105	24	60	30	33	0.87	− 3.83	0.45	0	4	18	10	3	s.	Mrs. T. C. Peffer.
Fall River	do	925	16	82.3	+ 4.2	105	24	59	31	35				0		18	5	0	s.	J. McDaniel.
Fargo	Seward		2								2.77		1.25	0	6	16	14	1	se.	N. B. Swink.
Fredonia	Wilson	975	9	81.2		102	24	61	1	32	1.49		0.50	0	6	21	10	0	s.	B. W. Holmes.
Garden City	Finney	2,836	23	77.8	+ 0.4	102	11†	54	16	40	1.57	− 1.68	0.50	0	10	13	16	2	s.	B. F. Stocks.
Great Bend	Barton	1,850	3								3.28		0.80	0	10	19	8	4	sw.	I. Pritchard.
Greensburg	Kiowa	2,235	5	80.4		104	24	60	5†	37	1.39		0.55	0	5	28	2	1	s.	C. C. Raymond.
Grenola	Elk	1,116	24	81.6	+ 3.7	103	24	62	1†	35	1.18	− 2.34	0.76	0	4	19	12	0	sw.	W. H. Lawyer.
Hess	Gray		6	76.7		101	12	51	9	47	4.33		1.90	0	5	20[b]	6[b]	3[b]	se.	Harry Jacques.
Howard	Elk	1,112	5	81.3		104	24	61	30	35	0.24		0.15	0	3	26	5	0	sw.	J. W. Eby.
Hugoton	Stevens		8																	F. A. McCoy.
Hutchinson	Reno	1,535	22	81.7	+ 4.3	105	12†	57	6	34	3.35	− 0.87	2.21	0	7	19	9	3	s.	E. S. Webster.
Independence	Montgomery	800	38	81.5	+ 0.8	101	24	60	30	35	3.25	− 1.07	2.80	0	3	20	10	1	s.	F. L. Kenoyer.
Iola	Allen	984	6	80.2	+ 2.1	100	24	62	30	33	1.49	− 2.43	0.57	0	8	14	12	5	s.	U. S. Weather Bureau.
Irene	Hamilton	3,440	2	78.0		104	8†	51	5	45	2.11		0.95	0	6	10	14	7	se.	N. M. Herbig.
Jetmore	Hodgeman	2,268	11	79.4		102	24	54	16	42	0.58	− 2.62	0.39	0	4	10	20	1	s.	James Aiken.
Kingman	Kingman	1,504	4	82.2		106	24	58	6	35	1.93		0.75	0	5	11	20	0	sw.	B. B. Anawalt.
La Crosse	Rush	2,061	10	81.8		106	24	56	6	42	0.61	− 2.47	0.20	0	6	23	8	0	se.	Rodney Torrey.
Lakin	Kearney	2,993	22	77.4	+ 0.6	104	23	51	5†	43	0.88	− 1.53	0.78	0	3	20	11	0	se.	C. H. Longstreth.
Larned	Pawnee	2,090	27	81.1		103	12†	58	6†	35	1.05	− 2.66	0.85	0	6	17	12	2	s.	H. H. Wolcott.
Lebo	Coffey	1,138	26	80.5	+ 2.7	104	24	60	19	33	1.93	− 2.14	0.91	0	9	18	13	0	s.	J. J. Bowman.
LeRoy	do	990	3								1.06		0.66	0	5	16	6	9	s.	F. W. Schmitt.
Liberal	Seward	2,843	5	79.6		102	12	57	6	38	1.72		0.70	0	11	21	3	7	se.	Dr. R. T. Nichols.
Macksville	Stafford	2,032	23	80.4	+ 3.2	104	12†	57	6	37	2.30	− 1.37	1.10	0	8	15	13	3	sw.	Mrs. Nella Poling.
McPherson	McPherson	1,495	23	82.2	+ 4.1	107	12	58	6	37	1.79	− 2.10	1.02	0	7	14	12	5	sw.	Ed. F. Haberlein.
Madison	Greenwood	1,074	11	78.4	+ 0.9	105	24	58	1†	39	3.31	− 1.90	0.99	0	9	7[d]	20[d]	0[d]	ne.	C. A. David.
Marion	Marion	1,310	19	81.8	+ 2.2	105	24	61	1	36	3.46	+ 0.40	0.75	0	12	16	15	0	s.	Jerry Forney.
Medicine Lodge	Barber	1,259	19	82.2	+ 2.1	108	24	58	6	42	2.68	− 0.31	1.75	0	4	16	14	1	s.	S. P. Garrison.
Medora	Reno	1,484	3								1.06		0.57	0	8	18	1	12	s.	M. L. Rickenbrode.
Minneola	Clark	2,558									1.01		0.41	0	4	21	8	2	s.	A. P. Reece.
Mount Hope	Sedgwick	1,410	15								1.62	− 1.79	0.69	0	5	20	11	0	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	7								2.49		1.14	0	6	21	7	3	sw.	W. H. McMullin.
Ness City	Ness	2,260	19								0.66	− 3.00	0.36	0	5					J. K. Barnd.
Newton	Harvey	1,454	15	82.3	+ 4.1	108	24	60	6	35	3.88	+ 0.49	1.65	0	9	16	15	0	se.	H. A. Brush.
Norwich	Kingman	1,496	16	83.4	+ 4.9	105	24	60	6	34	1.71	− 1.51	0.82	0	5	15	16	0	se.	N. I. Farris.
Oswego	Labette	899	18	80.0	+ 1.3	97	24†	62	1	28	3.40	− 1.29	1.85	0	5	15	16	0	sw.	Jas. M. Currigan.
Plains	Meade	2,766	2	77.8		98	12†	53	16	34	2.85		1.25	0	6	16	15	0		E. J. Henning.
Pratt	Pratt	1,950	17	82.4	+ 2.7	107	11	59	2†	41	2.42	− 0.85	1.40	0	6	20	10	1	s.	T. J. Arnold.
Richfield	Morton		1	77.3	− 0.8	100	12	53	4	39	1.55	− 1.92	0.73	0	7					M. J. Allen.
Rome	Sumner	1,218	26	82.7	+ 3.8	105	24	59	30	36	2.16	− 1.25	1.07	0	6	23	7	1	s.	D. M. Adams.
Sedan	Chautauqua	834	27	82.3	+ 3.5	103	27	60	1	31	2.29	− 1.22	1.32	0	4	23	6	2	s.	A. Y. Buckles.
Toronto	Woodson	1,040	15	80.6	+ 3.0	103	24	61	30†	35	3.88	− 1.48	1.25	0	5	28	1	2	s.	M. A. Webb.
Ulysses	Grant	3,050	21	79.2	+ 0.6	102	12	55	5†	38	2.07	− 0.95	0.73	0	8	14[a]	16[a]	0[a]	sw.	T. W. Marshall.
Walnut	Crawford	940	10	79.6	+ 1.5	99	24†	61	1†	35	1.55	− 3.44	0.53	0	8	25	5	1	sw.	R. C. Harlan.

TABLE 1.—*Climatological data for July, 1912. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kansas—Continued.																				
Wellington	Sumner	1,225	16	82.8	+ 4.0	107	24	59	6†	38	2.85	− 0 80	1.63	0	3	19	9	3	s.	E. O. G. Kelly.
Wichita	Sedgwick	1,377	25	81.6	+ 2.6	101	24	64	6	29	1.28	− 2.34	0.52	0	6	15	15	1	s.	U. S. Weather Bureau.
Winfield	Cowley	1,124	18	82.8	+ 4.2	103	24	63	6†	30	1.48	− 2.59	0.60	0	4	24	5	2	s.	M. B. Light.
Yates Center	Woodson	1,068	33	79.2	+ 1.9	101	25	55	1	35	3.00	− 1.36	1.65	0	4	15[a]	14[a]	1[a]	s.	J. W. Tipton.
Oklahoma.																				
Ada	Pontotoc	1,001	4	83.4	.....	106	29	64	6	31	0.80	.....	0.27	0	3	24	7	0	se.	W. S. Creveling.
Alva	Woods	1,350	7	84.3	.....	108	24	57	6	38	0.50	.....	0.40	0	2	8	22	1	s.	S. A. Stech.
Apache	Caddo	1,255	2	82.8	.....	105	28	62	6	37	1.39	.....	0.63	0	4	28	2	1	sw.	G. D. Teeter.
Arapaho	Custer	1,575	18	83.2	+ 3.1	106	25	60	6	41	1.19	− 2.49	0.55	0	4	21	10	0	s.	J. C. Brower.
Ardmore	Carter	872	10	86.6	+ 4.4	110	29	67	6	36	0.24	− 2.82	0.11	0	3	19	10	2	s.	H. T. Nisbett.
Arnett	Ellis	2,136	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. H. Holmes.
Bartlesville	Washington	687	4	84.7	.....	105	27†	65	1†	31	0.03	.....	0.02	0	2	20	11	0	s.	Dr. A. P. Owens.
Beaver	Beaver	2,500	15	83.9	+ 3.3	105	12	58	16	35	1.82	− 0.95	0.83	0	6	27	4	0	s.	W. C. Frazer.
Blackburn	Pawnee	800	10	.....	.....	.....	.....	.....	.....	.....	0.25	− 1.86	0.25	0	1	.....	.....	.....	.....	M. M. Rhodes.
Cache	Comanche	1,350	6	82.8	.....	101	28†	60	6	36	1.30	.....	0.75	0	2	24	7	0	s.	Mrs. Frank Rush.
Calvin	Hughes	713	7	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.08	0	2	27	1	3	s.	Thomas Purcell.
Chandler	Lincoln	865	10	83.7	+ 2.1	103	28	62	6	30	2.15	− 0.66	1.04	0	3	26	0	5	s.	Chas. L. Kern.
Chattanooga	Comanche	1,150	6	81.8	.....	102	28	65	6	34	0.78	.....	0.38	0	3	20	10	1	s.	Squire Humble.
Chickasha	Grady	1,091	10	84.8	+ 2.1	106	25†	65	6	36	1.86	− 0.33	0.83	0	4	30	1	0	s.	J. C. Good.
Cloud Chief	Washita	1,400	10	84.8	+ 3.2	106	28	62	6	37	0.91	− 1.32	0.36	0	4	19	12	0	s.	J. P. Stutzman.
Crawford	Roger Mills	.....	.....	.....	.....	104	24	.....	.....	.....	0.75	.....	0.30	0	5	20	3	8	s.	W. W. Blackburn.
Durant	Bryan	643	10	85.1	+ 4.1	106	29	67	6	33	0.03	− 4.31	0.03	0	1	29	2	0	s.	Nelson Houk.
Eldorado	Jackson	1,456	5	85.0	.....	106	29	65	5†	37	1.21	.....	0.61	0	3	21	10	0	se.	T. W. Lanham.
Elk City	Beckham	.....	.....	82.6	.....	103	28	62	6	32	0.77	.....	0.77	0	1	14	16	1	s.	R. J. Carlile.
El Reno	Canadian	1,400	20	85.0	+ 4.8	106	.....	63	.....	36[b]	1.27	− 1.80	0.88	0	4	23	7	1	s.	Rose E. Walker.
Enid	Garfield	1,269	10	83.4	+ 2.2	106	24†	60	6†	37	0.96	− 2.29	0.25	0	6	27	3	1	s.	Uri B. Worcester.
Erick	Beckham	2,058	7	79.0	.....	104	.....	56	.....	32[a]	0.52	.....	0.13	0	5	18[a]	10[a]	2[a]	s.	A. W. Hanes.
Eufaula	McIntosh	566	.....	82.4	.....	104	29	61	7	32	0.66	.....	0.30	0	3	22	8	1	s.	R. Uhl Brown.
Fairland	Ottawa	839	12	82.0	+ 3.4	103	28	62	1	34	1.39	− 2.29	0.52	0	6	19	12	0	s.	C. W. Prier.
Fort Gibson	Muskogee	556	7	.....	.....	.....	.....	.....	.....	.....	2.31	.....	1.20	0	5	23	4	4	s.	John T. Welsh.
Frederick	Tillman	1,293	5	84.8	.....	109	29	61	6	40	2.27	.....	1.46	0	7	20	11	0	se.	B. B. Bradley.
Geary	Blaine	1,546	.....	83.6	.....	106	28	62	6	33	1.75	.....	1.26	0	4	22	8	1	s.	O. P. Ruth.
Goodwell	Texas	3,300	1	.....	.....	100	12	.....	.....	.....	1.90	.....	0.78	0	5	19	6	6	s.	S. W. Black.
Guthrie	Logan	1,000	19	83.7	+ 2.1	106	28	62	6	34	5.25	+ 2.26	2.20	0	5	27	1	3	s.	S. E. Synder.
Guymon	Texas	3,133	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. L. Mordt.
Hartshorne	Pittsburg	700	13	84.8	+ 3.2	105	29	65	.....	35[a]	0.50	− 3.40	0.30	0	3	25	6	0	s.	Frank Webber.
Healdton	Carter	900	18	83.7	+ 2.4	110	29	63	7	41	1.52	− 2.30	0.93	0	2	23	8	0	s.	C. H. Heald.
Helena	Alfalfa	1,396	4	84.4	.....	106	24	68	2†	34	0.25	.....	0.14	0	3	16	15	0	s.	R. E. Ellis.
Hennessey	Kingfisher	1,166	17	83.8	+ 2.7	108	25	61	5†	37	2.62	−1 .08	1.40	0	3	20	11	0	s.	Mrs. M. C. Parks.
Hobart	Kiowa	1,396	9	83.0	.....	105	28	62	5	34	0.75	.....	0.33	0	5	13	18	0	s.	Rev. J. E. Black.
Holdenville	Hughes	900	11	83.8	+ 3.8	107	29	63	6	33	0.58	− 2.72	0.43	0	2	30	1	0	s.	Eula L. Rutherford.
Hooker	Texas	3,038	6	78.3	.....	101	13†	57	6	40	2.19	.....	0.80	0	8	12	3	16	s.	H. N. Kelly.
Hurley	Cimarron	4,200	4	76.6	.....	103	11	50	.....	42[a]	.....	.....	.....	0	.....	5	20	6	se.	Dr. C. W. Meyers.
Idabel	McCurtain	474	3	85.1	.....	108	29	66	1	35	2.80	.....	1.80	0	4	24	7	0	sw.	A. A. Bear.
Jefferson	Grant	1,062	18	83.0	+ 2.3	105	28	60	6	33	2.39	− 1.01	1.05	0	4	25	6	0	s.	T. E. Beck.
Kenton	Cimarron	4,000	11	75.3	− 0.8	97	8	46	5	40	1.05	− 1.18	0.22	0	8	21	9	1	s.	Wm. M. Guy.
Kingfisher	Kingfisher	1,046	15	84.2	+ 3.0	106	25†	62	6	38	1.71	− 1.59	1.12	0	5	15	16	0	s.	J. C. Cross.
Lawton	Comanche	1,111	.....	85.5	.....	105	28†	67	.....	33[a]	0.37	.....	0.31	0	3	26	5	0	s.	F. C. Davis.
McAlester	Pittsburg	698	15	85.2	.....	109	29	65	6†	33	0.84	− 3.05	0.44	0	4	23	4	4	s.	Wm. Noble.
Mangum	Greer	1,585	19	83.8	+ 1.8	106	28	61	6	36	1.76	− 0.77	1.30	0	6	21	6	4	se.	F. D. Dodson.
Marlow	Stephens	1,292	11	84.4	+ 3.7	106	29	64	6	33	2.04	− 0.26	1.65	0	3	20	6	5	se.	Wm. B. Anthony.
May	Harper	.....	.....	81.1	.....	105	24	57	6	38	3.03	.....	1.42	0	5	14	13	4	s.	G. C. Gray.
Meeker	Lincoln	1,030	18	84.0	+ 3.4	104	25†	63	6	32	1.65	1.10	1.00	0	3	25	5	1	s.	Dr. J. H. Baugh.
Muskogee	Muskogee	614	13	83.6	+ 4.4	105	28	64	11	30	0.73	− 3.20	0.56	0	3	25	2	4	s.	J. Harry Randall.
Mutual	Woodward	.....	4	82.8	.....	109	24	56	6	39	0.88	.....	0.30	0	4	24	6	1	s.	Thos. Martin.
Neola	Caddo	1,500	6	82.8	.....	104	28	63	5	33	1.86	.....	1.46	0	5	18	13	0	s.	R. N. Schooling.
Newkirk	Kay	1,149	14	85.6	+ 4.5	107	24	61	6	32	2.00	− 1.42	0.80	0	5	24	5	2	s.	P. H. Albright & Co.
Norman	Cleveland	1,171	17	83.4	+ 2.8	104	29	63	6	34	0.77	− 2.43	0.52	0	3	13	18	0	s.	S. E. Boyd.
North Muskogee	Muskogee	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.70	.....	0.32	0	3	27	0	4	s.	J. E. Walker.
Oakwood	Dewey	1,854	2	81.0	.....	103	28	58	6	30	1.13	.....	0.63	0	5	25	1	5	s.	Dr. F. P. Osborn.
Okeene	Blaine	1,194	7	84.0	.....	106	28	60	6	33	0.99	.....	0.32	0	6	19	12	0	s.	Dr. L. H. Murdoch.
Okemah	Okfuskee	.....	.....	83.1	.....	106	29	54	6	36	1.29	.....	0.85	0	4	28	3	0	se.	S. F. Smith.
Oklahoma	Oklahoma	1,247	22	82.5	+ 2.7	102	28	63	1	28	2.32	− 1.33	1.60	0	4	24	7	0	s.	U. S. Weather Bureau.
Okmulgee	Okmulgee	752	7	84.7	.....	105	26†	61	1	32	0.65	.....	0.40	0	2	23	7	1	s.	J. L. Maynard.
Pauls Valley	Garvin	880	11	83.0	+ 2.7	105	28	64	1†	33	0.78	− 2.89	0.46	0	3	24	7	0	s.	A. M. Foss.
Pawhuska	Osage	918	11	84.2	+ 4.0	105	24†	62	6	32	2.17	− 2.19	1.70	0	5	21	9	1	s.	R. C. Block.
Perry	Noble	920	13	84.0	+ 3.5	107	28	60	6	33	2.51	− 0.02	1.85	0	4	14	16	1	s.	S. E. Laird.
Rankin	Rogers Mills	2,200	8	79.6	.....	103	29	58	6†	33	1.18	.....	0.72	0	3	23	6	2	s. w.	Roy Kagay.
Ravia	Johnston	796	9	83.4	.....	108	28	63	3	38	0.74	.....	0.53	0	2	29	1	1	s.	R. G. Guptill.
Sac and Fox Agency	Lincoln	900	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thos. P. Myers.
Shawnee	Pottawattomie	1,041	10	83.6	+ 3.2	104	25	62	6	33	1.30	− 1.46	0.56	0	3	11	18	2	se.	Mrs. Kate Chatman.
Snyder	Kiowa	1,356	5	84.2	.....	105	29	65	6	33	1.20	.....	0.65	0	3	22	9	0	se.	Dr. W. C. Woodard.
Stillwater	Payne	880	19	83.3	+ 3.4	104	27	60	31	30	1.50	− 1.66	1.10	0	5	23	7	1	s.	Wm. P. Watson.
Tulsa	Tulsa	700	23	84.8	.....	106	28	65	1†	32	0.38	− 2.88	0.25	0	3	24	7	0	s.	Dr. H. M. Hutchinson.
Vinita	Craig	698	8	82.1	.....	100	.....	64	.....	27[b]	1.95	.....	1.07	0	4	21[b]	0[b]	8[b]	sw.	W. C. Chamberlain.
Wagoner	Wagoner	588	15	83.0	+ 2.0	104	28	63	6†	31	1.45	− 3.23	0.80	0	3	27	0	4	s.	Moro Hatfield.
Waukomis	Garfield	1,258	15	83.4	+ 2.1	109	28	61	6	40	1.07	− 2.76	0.52	0	3	26	5	0	se.	R. C. Shades.
Waurika	Jefferson	988	1	84.0	.....	107	29	65	6	39	2.33	.....	1.08	0	5	24	6	1	s.	B. A. Swindler.
Weatherford	Custer	1,639	10	83.6	+ 3.1	107	25†	61	6	34	2.26	+ 0.02	1.04	0	8	18	10	3	s.	Eugene Forbes.
Webbers Falls	Muskogee	479	13	84.2	+ 3.8	106	26	64	6	34	1.51	− 2.55	0.76	0	2	11	20	0	e.	B. D. Boulineau.
Whiteagle	Kay	945	8	84.8	.....	106	24†	61	6	31	0.75	.....	0.34	0	5	29	2	0	s.	John F. De Jarnette.
Woodward	Woodward	1,893	9	82.2	.....	106	24	57	6	35	3.25	.....	2.00	0	5	26	4	1	s.	R. A. Boyle.
Wyandotte	Ottawa	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.51	.....	1.31	0	4	28	1	2	s.	Henry Hicks.
Missouri.																				
Belle	Maries	.....	21	77.4	+ 0.5	95	12†	60	15†	29	5.35	+ 1.06	1.80	0	6	7[b]	17[b]	5[b]	s.	A. J. Woffard.
Birchtree	Shannon	1,200	19	76.6	+ 0.5	94	15	61	29	28	5.25	+ 0.36	2.10	0	7	25	5	1	sw.	V. H. Kirkendall.
Cape Girardeau	Cape Girardeau	346	3	.....	.....	.....	.....	.....	.....	.....	4.25	.....	2.00	0	8	20	4	7	s.	D. L. Albert.
Cardwell	Dunklin	.....	1	80.6	.....	97	22	62	27†	33	4.08	.....	1.52	0	7	25	6	0	s.	E. M. Perry.
Caruthersville	Pemiscot	.....	21	82.0	+ 2.7	100	25	64	28	33	3.76	+ 0.06	1.01	0	6	25	3	3	e.	H. E. Averill.
Cassville	Barry	.....	2	77.0	.....	97	28	56	30	39	2.53	.....	1.07	0	7	23	6	2	s.	Mrs. Zuma Bloomer.
Dean	McDonald	.....	14	79.0	+ 1.5	99	28	58	1†	37	1.28	− 3.24	0.95	0	5	28	1	2	.....	H. E. Dean.
Doniphan	Ripley	440	9	79.0	.....	95	15†	61	27	31	4.69	.....	1.10	0	8	15	13	3	s.	W. W. Martin.

TABLE 1.—*Climatological data for July, 1912. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Missouri*—Continued.**																				
Gano	Dent	.....	9	79.6	.....	98	24†	58	27	37	1.38	.....	0.44	0	7	19	10	2	s.	A. C. Leech.
Goodland	Iron	900	8	76.2	.....	95	15†	55	27	34	2.76	.....	0.89	0	8	14[a]	15[a]	1[a]	s.	F. M. Adams.
Hollister	Taney	1,000	3	78.4	.....	98	28	58	31	32	2.00	.....	0.85	0	5	22	0	9	se.	W. P. Chapman.
Ironton	Iron	925	35	77.6	+ 2.0	96	15	57	27	33	5.07	+ 0.50	2.77	0	7	10	17	4	s.	W. H. Delano.
Jackson	Cape Girardeau	458	22	79.4	+ 2.9	99	18	60	28	31	4.27	+ 0.50	1.04	0	9	10	13	8	s.	L. M. Bean.
Joplin	Jasper	979	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Ruth Smith.
Koshkonong	Oregon	911	13	78.4[e]	+ 1.0	94	22†	60	31	24	2.53	− 2.21	1.40	0	8	10[b]	12[b]	1[b]	s.	J. W. Hitt.
Lamar	Barton	964	32	80.7	+ 2.6	99	24	63	1†	35	1.56	− 2.90	0.47	0	7	23	5	3	sw.	E. H. Adams.
Marble Hill	Bollinger	420	19	77.1	+ 0.3	95	24	55	17	34	3.18	− 1.81	1.00	0	5	17	13	1	s.	A. F. Hendrix.
Mountaingrove	Wright	1,490	14	76.9	+ 1.5	94	24	52	1	32	4.53	− 0.26	1.27	0	7	18	9	4	s.	Mo. Fruit Exp. Sta.
Mount Vernon	Lawrence	1,480	36	79.4	+ 1.9	99	28	61	30	36	3.62	− 1.77	1.69	0	8	18	11	2	sw.	J. R. White & Son.
Neosho	Newton	1,023	30	80.0	+ 2.6	97	28	58	11	35	2.55	− 1.75	1.09	0	5	27	4	0	s.	W. O. Buck.
New Madrid	New Madrid	285	19	.....	.....	.....	.....	.....	.....	.....	2.89	− 1.63	0.80	0	7	21	3	7	s.	Miss Josie Smith.
Oakfield	Franklin	793	21	78.8	+ 1.4	99	24	61	19†	32	2.99	− 1.83	1.27	0	5	9	19	3	s.	E. E. Steines.
Olden	Howell	1,246	23	77.5	+ 1.6	94	25	59	16	32	5.36	+ 0.90	2.30	0	7	17	13	1	sw.	J. D. Evans.
Rolla	Phelps	1,139	32	78.6	+ 2.0	95	14	60	15	34	4.18	+ 0.04	2.13	0	7	18	9	4	sw.	Prof. P. J. Wilkins.
Springfield	Greene	1,350	25	78.2	+ 1.7	96	24	63	1	25	1.40	− 3.39	0.71	0	9	20	9	2	s.	U. S. Weather Bureau.
Kentucky.																				
Blandville	Ballard	445	31	78.0	+ 0.1	93	15	64	27†	25	1.84	− 2.05	1.09	0	8	9	17	5	s.	E. W. Horr.
Tennessee.																				
Arlington	Shelby	.....	30	80.3	+ 0.9	98	22	62	27	29	4.62	+ 0.88	1.20	0	7	11	11	9	s.	A. Thomas B. Etheridge.
Bolivar	Hardeman	450	25	79.6	+ 1.1	95	25	60	7	28	3.07	− 0.76	0.87	0	7	22	1	8	s.	Miss Mary A. Smith.
Brownsville	Haywood	361	27	81.8	+ 2.5	98	22†	63	27	30	2.53	− 0.97	0.60	0	10	14	12	5	s.	Miss Hattie N. Moses.
Covington	Tipton	311	25	80.1	+ 0.7	94	23†	64	27	23	6.89	+ 3.57	2.00	0	9	23	0	8	s.	James S. Ruffin
Dyersburg	Dyer	310	29	81.0	+ 1.1	99	23	65	2†	27	6.89	+ 3.24	2.00	0	7	16	5	10	se.	Miss Martha A. Sinclair.
Jackson	Madison	450	19	80.5	+ 1.4	98	22	61	28†	34	2.66	− 2.15	0.74	0	8	9	18	4	0	Shelby A. Robert.
Kenton	Obion	325	10	78.8[k]	+ 0.3	98	23	60[b]	27	26[b]	3.15	− 1.65	1.24	0	6	10[d]	14[d]	3[d]	sw.	George S. Martin.
Memphis	Shelby	409	41	80.3	+ 0.1	94	25	69	10	21	3.27	− 0.24	2.19	0	7	14	12	5	sw.	U. S. Weather Bureau.
Milan	Gibson	440	29	78.5	− 0.7	93	23†	63	27†	27	9.19	+ 5.42	5.15	0	7	14	3	14	s.	Orlando F. Cantwell.
Trenton	....do	345	29	79.2	+ 1.5	96	15	60	27†	32	2.24	− 1.14	1.40	0	7	24	5	2	sw.	F. L. Dennison.
Union City	Obion	360	14	79.2	− 0.1	95	24	62	27†	30	2.22	− 2.17	0.90	0	9	16	13	2	s.	J. B. Kimzey.
Arkansas.																				
Alicia	Lawrence	.....	8	80.2	.....	96	28	63	26†	32	3.32	.....	1.90	0	4	25	6	0	s.	McCullough and Guelck.
Amity	Clark	250	20	82.4	+ 2.3	101	26†	62	1	30	2.85	− 1.07	0.90	0	5	15	16	0	sw.	J. W. Campbell.
Arkadelphia (near)	....do	250	5	82.7	.....	99[a]	25†	63[a]	1	29[a]	3.60	.....	1.96	0	7	.....	.....	.....	sw.	J. A. Ross.
Arkansas City	Desha	145	29	.....	.....	.....	.....	.....	.....	.....	3.19	− 0.69	0.95	0	8	.....	.....	.....	.....	W. C. Blundell.
Batesville	Independence	271	7	.....	.....	.....	.....	.....	.....	.....	3.50	.....	1.72	0	7	.....	.....	.....	.....	Lelia I. Teter.
Bee Branch	Van Buren	.....	20	81.8	+ 2.2	104	25	62	3	37	0.90	− 2.81	0.70	0	3	20	8	3	.....	J. E. Scanlan.
Benton	Saline	283	5	82.2	.....	102	25†	64	28	38	1.68	.....	0.97	0	3	21	7	3	s.	P. B. Jackson.
Bentonville	Benton	1,303	7	79.6	+ 1.1	98	28	62	1	31	0.43	− 3.88	0.40	0	4	22	8	1	s.	U. S. Weather Bureau.
Bergman	Boone	1,324	15	74.8	− 2.3	96	25†	56	1†	44	2.68	− 2.08	1.23	0	5	26	2	3	sw.	John T. Maxey.
Black Rock	Lawrence	259	8	.....	.....	.....	.....	.....	.....	.....	4.42	.....	1.67	0	9	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	26	82.6	+ 2.8	101	25	63	28	35	5.81	+ 1.84	3.86	0	5	.....	.....	.....	.....	H. L. D. Whitson.
Calico Rock	Izard	361	8	.....	.....	.....	.....	.....	.....	.....	2.93	.....	2.75	0	3	.....	.....	.....	.....	W. H. Stoner.
Camden	Ouachita	158	27	81.5	+ 0.4	97	25†	65	28	30	2.88	− 1.42	0.91	0	8	17	6	8	sw.	R. K. Quarterman.
Centerpoint	Howard	470	12	83.1	+ 1.5	102	26†	64	1	30	2.50	− 2.68	1.30	0	3	13	14	4	sw.	J. M. Huddleston.
Clarendon	Monroe	171	8	.....	.....	.....	.....	.....	.....	.....	4.78	.....	4.00	0	8	.....	.....	.....	.....	Mrs. B. E. Bishop.
Conway	Faulkner	309	29	82.8	+ 2.4	101	25†	67	28	33	1.16	− 2.41	0.28	0	8	20	9	2	s.	G. H. Burr.
Corning	Clay	293	20	80.0	+ 1.1	93	14†	62	27	25	3.40	− 0.03	0.94	0	8	16	12	3	s.	Jacob Brobst.
Dardanelle	Yell	330	26	81.4	.....	100	29	64	1	27	1.39	− 2.83	0.50	0	5	.....	.....	.....	.....	A. Bernard.
Dodd City	Marion	1,175	31	78.9	− 1.1	98[a]	23	56[a]	31	34[a]	2.95	− 2.03	2.10	0	4	2	28	1	s.	Neal Dodd.
Dumas	Desha	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.11	.....	2.55	0	7	17	12	2	.....	Lawrence Waterman.
Dutton	Madison	.....	10	78.6[e]	.....	100[e]	29	59[e]	31	35[e]	3.57	.....	1.84	0	8	16	13	2	s.	J. M. Ricketts.
Eldorado	Union	265	8	82.2	.....	99	26	66	28	30	2.81	.....	1.28	0	13	.....	.....	.....	.....	Jeff J. Babb.
England	Lonoke	.....	6	82.6	.....	101[a]	25	67[a]	13	27[a]	1.51	.....	0.72	0	6	.....	.....	.....	.....	J. C. Chenault.
Eureka Springs	Carroll	1,465	10	80.6	+ 3.5	101	25†	60	30	38	0.95	− 3.49	0.42	0	3	17	12	2	sw.	George W. Nicholds.
Fayetteville	Washington	1,451	23	80.7	+ 3.3	99	28†	61	1	30	3.06	− 1.75	2.10	0	6	13	16	2	sw.	University of Arkansas.
Fordyce	Dallas	.....	.....	81.8	.....	97	30	66	28	28	2.63	.....	0.62	0	7	13	13	5	s.	A. Tredick.
Fort Smith	Sebastian	481	30	83.3	+ 2.8	101	28	67	1	34	0.78	− 3.06	0.34	0	5	14	13	4	e.	U. S. Weather Bureau.
Fraziers Turnpike	Pulaski	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.19	.....	0.65	0	3	15	10	6	s.	R. E. Brown.
Fulton	Hempstead	264	8	.....	.....	.....	.....	.....	.....	.....	5.00	.....	2.16	0	4	.....	.....	.....	.....	B. C. Logan.
Hardy	Sharp	643	14	79.9	+ 1.4	99	24	62	27	30	2.08	− 2.02	1.25	0	8	2	24	5	sw.	C. A. Caywood.
Helena	Phillips	182	27	81.6	+ 0.2	100	30	63	12	30	2.99	− 1.03	1.10	0	10	.....	.....	.....	.....	B. F. Modisett.
Hot Springs	Garland	600	20	83.0	+ 2.6	101	25†	59	1	27	1.46	− 3.66	0.72	0	7	13	14	4	sw.	Army and Navy Gen. Hosp.
Huttig	Union	85	5	82.2	.....	99	26	65	28	31	3.74	.....	1.03	0	10	3	28	0	.....	C. A. Berry.
Jonesboro	Craighead	345	17	81.6	+ 0.8	98	15†	63	27†	33	2.78	− 0.45	1.50	0	7	10	18	3	s.	Benedictine Sisters.
Junction	Union	.....	19	82.6	+ 2.0	99	27	68	31	28	2.95	− 0.91	0.78	0	7	15	6	10	sw.	J. A. Lowderback.
Lake Farm	Jefferson	195	5	82.0	.....	101	25	60[f]	28	33[f]	3.60	.....	1.70	0	3	2	29	0	se.	R. H. Gillispie.
Lewisville	Lafayette	262	9	83.8	.....	104[a]	26	65[a]	1†	30[a]	3.50	.....	1.57	0	5	.....	.....	.....	.....	F. W. Youmans.
Little Rock	Pulaski	357	33	82.0	+ 1.4	99	25	68	1	25	1.93	− 2.06	0.42	0	9	13	13	5	s.	U. S. Weather Bureau.
Lutherville	Johnson	775	15	80.6	+ 1.8	98	29	64	1	27	2.32	− 1.56	1.02	0	9	21	9	1	sw.	W. R. Hentschel.
Malvern	Hot Springs	277	25	82.4	+ 1.2	102	25	66	1†	32	2.42	− 0.56	1.22	0	3	.....	.....	.....	.....	Miss L. C. Smith.
Mammoth Spring	Fulton	512	8	77.8	.....	97	24	60	30†	33	4.02	.....	1.91	0	8	18	12	1	.....	F. Wallick.
Mena	Polk	1,100	26	80.6	− 0.1	102	29	62	1†	38	2.93	− 1.90	1.26	0	8	22	8	1	sw.	R. R. St. John.
Newport	Jackson	231	28	82.8	+ 2.2	103	24	66	3†	30	4.35	+ 1.24	0.75	0	11	.....	.....	.....	.....	Chas. Sprigg.
Pine Bluff	Jefferson	215	24	82.1	− 0.3	99	25	65	28	31	2.73	− 0.81	0.80	0	6	.....	.....	.....	.....	J. M. Hudson.
Pocahontas	Randolph	.....	20	81.4	+ 2.0	99	29	63	27†	35	5.21	+ 0.70	1.90	0	7	18	11	2	.....	Benedictine Sisters.
Pond	Benton	1,250	15	79.5	+ 2.9	96	25†	60	1	33	0.38	− 4.68	0.27	0	5	5	25	1	sw.	A. F. Stevens.
Portland	Ashley	122	3	81.8	.....	98	25	67	12	29	3.81	.....	1.45	0	9	.....	.....	.....	.....	T. A. Corson.
Prescott	Nevada	327	24	82.0	+ 0.1	100	26†	62	1	33	7.15	+ 4.27	5.05	0	6	.....	.....	.....	.....	A. M. Ellsworth.
Rogers	Benton	1,385	21	78.9	+ 2.0	98	27†	61	1	32	0.41	− 4.18	0.34	0	3	22	7	2	s.	Carl A. Stark.
Springbank	Miller	182	4	.....	.....	.....	.....	.....	.....	.....	3.04	.....	1.15	0	10	.....	.....	.....	.....	G. Field.
Stuttgart	Arkansas	495	25	82.0	+ 1.3	100	25	62	28	35	1.36	− 3.38	0.61	0	6	18	13	0	se.	H. A. Buerkle.
Subiaco	Logan	1,050	15	82.4	+ 2.6	101	30	65	1	31	1.91	− 1.92	0.75	0	5	11	9	11	ne.	New Subiaco Abbey.
Swain	Newton	2,300	1	75.7	.....	93[b]	29	63[b]	1	23[b]	2.56	.....	1.12	0	7	.....	.....	.....	s.	George Paxton.
Texarkana	Miller	332	28	83.4	+ 1.3	102	26	62	1	31	2.25	− 0.84	1.55	0	5	.....	.....	.....	.....	D. E. Moore.
Warren	Bradley	304	17	82.8	+ 0.9	101	25†	63	28	36	1.97	− 1.84	0.92	0	7	.....	.....	.....	.....	W. J. Savage.
Whitecliffs	Little River	206	8	.....	.....	.....	.....	.....	.....	.....	2.80	.....	1.95	0	4	.....	.....	.....	.....	John E. Payton.
Wiggs	Garland	.....	19	80.2	− 0.1	100	25	60	1	32	3.64	− 2.22	1.35	0	9	14	17	0	sw.	S. D. Jester.
Wynne	Cross	250	4	81.6	.....	98	24†	62	3	28	3.11	.....	0.90	0	8	.....	.....	.....	.....	John Seals.

TABLE 1.—*Climatological data for July, 1912. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi.																				
Anguilla	Sharkey	107	4	81.6	.....	95	26†	65	28	27	6.91	.....	3.25	0	9	5	22	4	sw.	E. W. Cook.
Austin	Tunica	200	16	81.2	+ 0.9	99	25	63	27†	34	5.49	+ 1.33	1.86	0	8	24	3	4	s.	H. J. Irvine.
Batesville	Panola	230	25	80.9	+ 0.7	98	25	62	27	32	1.37	− 2.78	0.35	0	8	19	1	11	w.	J. M. Cox.
Big Creek	Calhoun	.....	2	80.2	.....	99	25	63	28	30	1.04	.....	0.53	0	7	11	12	8	s.	J. P. Havens.
Byhalia	Marshall	390	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Bowen.
Canton	Madison	228	22	80.8	+ 0.2	97	30	67	28	29	3.90	− 0.34	1.20	0	9	5	21	5	.....	Dr. G. W. Smith-Vaniz.
Charleston	Tallahatchie	.....	2	82.4	.....	103	30	61	29	37	1.25	.....	0.42	0	5	21	4	6	s.	W. B. Burke.
Clarksdale	Coahoma	177	5	81.3	.....	97	25	64	28	30	5.28	.....	1.85	0	12	15	1	15	s.	A. C. Tuttle.
Cleveland	Bolivar	160	...	.....	.....	.....	.....	.....	.....	.....	2.81	.....	1.72	0	6	27	1	3	.....	W. W. Boone.
Coffeeville	Yalobusha	241	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. K. Bailey.
Corinth	Alcorn	470	24	80.2	+ 1.4	98	25	62	28	30	5.16	+ 0.20	1.20	0	11	13	4	14	s.	M. A. Candler.
Crenshaw	Panola	187	3	.....	.....	.....	.....	.....	.....	.....	3.27	.....	1.36	0	13	.....	.....	.....	.....	Mrs. A. L. Fitzgerald.
Denmark	Lafayette	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Welch.
Duck Hill	Montgomery	.....	13	81.4	+ 1.4	96	25	62	2	29	7.43	+ 2.61	2.56	0	12	10	18	3	s.	W. H. Eskridge.
Edwards	Hinds	222	25	80.2	− 1.9	97	26	62	8	30	7.03	+ 1.81	2.10	0	11	13	17	1	s.	E. F. Farr.
Enid	Tallahatchie	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. D. Burdeshaw.
Fayette	Jefferson	270	11	79.6	− 0.6	94	26	63	28	26	5.05	− 0.21	1.40	0	10	6	25	0	sw.	T. L. Darden.
Greenville	Washington	126	25	83.2	+ 1.4	99	25	67	28	28	0.82	− 3.49	0.31	0	11	22	1	8	sw.	F. L. Harbison.
Greenwood	Leflore	140	12	81.7	+ 1.0	101	25	66	27†	31	4.60	− 0.94	2.24	0	9	18	7	6	sw.	J. H. Stephen.
Grenada	Grenada	194	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. A. Jones.
Hernando	De Soto	391	24	81.3	+ 1.1	98	25	63	27	30	2.36	.....	0.47	0	9	19	5	7	e.	W. F. Wood.
Hickory Flat	Benton	435	3	.....	.....	.....	.....	.....	.....	.....	6.88	.....	2.00	0	8	8	20	3	s.	H. Powell.
Holly Springs	Marshall	600	25	79.6	− 0.7	96	25	65	27	26	2.90	− 1.41	1.41	0	11	14	5	12	se.	L. B. Mosby.
Kosciusko	Attala	430	22	80.0	+ 0.3	95	25†	65	27†	27	6.64	+ 1.83	2.92	0	12	15	15	1	se.	E. L. Lucas.
Lake Cormorant	De Soto	206	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hulda Brantley.
Lula	Coahoma	182	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. T. H. Brown.
Malone	Marshall	.....	3	.....	.....	.....	.....	.....	.....	.....	5.34	.....	1.55	0	9	.....	.....	.....	.....	M. J. Wilkins.
Marks	Quitman	163	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. R. P. Hayes.
Natchez	Adams	206	24	80.6	− 1.2	96	26†	65	2†	25	6.22	+ 1.02	1.10	0	12	17	3	11	se.	F. L. Garrity.
New Albany	Union	398	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Marshall.
Pontotoc	Pontotoc	475	23	78.2	− 0.7	95	25	61	9	26	3.03	− 1.83	1.48	0	4	9	19	3	se.	Dr. C. W. Bolton.
Port Gibson	Claiborne	116	24	80.7	− 0.4	96	26†	64	28	28	5.34	+ 0.80	1.78	0	14	12	3	16	e.	H. H. Crisler.
Rosedale	Bolivar	143	4	82.2	.....	102	5	65	28	30	4.12	.....	1.20	0	11	14	6	11	sw.	T. J. Murray.
Senatobia	Tate	284	3	.....	.....	.....	.....	.....	.....	.....	2.08	.....	1.35	0	4	25	0	6	sw.	C. Brickell.
Shoccoe	Madison	.....	9	79.0	.....	98	30	63	28	31	5.09	+ 0.75	1.98	0	6	20	6	5	s.	J. C. Pitchford.
Suffolk	Franklin	.....	11	80.5	+ 0.2	98	26	65	28	28	3.32	− 3.81	1.21	0	19	9	15	7	s.	Prof. G. H. Kent.
Swan Lake	Tallahatchie	148	7	.....	.....	.....	.....	.....	.....	.....	1.12	.....	0.57	0	5	19	5	7	ne.	W. J. Hawkins.
Tchula	Holmes	130	7	81.8	.....	97[d]	17	67[d]	27	25[d]	2.58	.....	0.85	0	5	.....	.....	.....	e.	Dr. P. M. Winkler.
University	Lafayette	502	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. H. Dorroh.
Utica	Hinds	287	8	80.2	.....	95	26	65	28	26	7.80	.....	2.70	0	12	8	13	10	se.	Dr. J. B. Dudley.
Vicksburg	Warren	247	41	80.6	+ 0.2	94	26	69	12	21	3.60	− 0.82	1.28	0	14	5	18	8	s.	U. S. Weather Bureau.
Water Valley	Yalobusha	300	23	80.7	+ 0.5	99	25	64	28	29	1.79	− 2.59	0.63	0	5	18	9	4	e.	Miss Loula Erikson.
Woodville	Wilkinson	560	19	79.8	− 1.6	94	26†	67	28	24	4.39	− 3.09	1.10	0	16	10	20	1	se.	James E. Lee.
Yazoo City	Yazoo	116	18	81.1	− 0.9	96	30	65	28†	29	4.26	− 0.30	1.28	0	11	17	1	13	e.	W. H. Courts.
Louisiana.																				
Abbeville	Vermilion	18	24	81.6	0	97	26	70	1†	25	7.06	− 0.52	1.70	0	18	14	12	5	se.	C. J. Edwards.
Alexandria	Rapides	77	24	82.4	+ 0.4	98	26†	63	7	29	6.08	+ 0.22	1.93	0	10	15	4	12	s.	Nellie Graham.
Amite	Tangipahoa	130	24	80.8	− 0.5	99	30	66	28	28	12.21	+ 3.97	2.50	0	14	6	25	0	s.	Lulu M. Wentz.
Antioch	Claiborne	.....	...	83.0	.....	101	26	67	12†	28	3.57	.....	0.97	0	11	23	0	8	s.	W. L. Anglin.
Avoca Island	St. Mary	.....	1	.....	.....	.....	.....	.....	.....	.....	10.00	.....	2.00	0	11	16	0	15	.....	J. N. Pharr & Sons, Ltd.
Baton Rouge	East Baton Rouge	60	24	80.8	− 0.6	97	26†	65	2	27	9.48	+ 3.06	2.20	0	18	18	3	10	se.	Elmo M. Bott.
Burnside	Ascension	20	12	81.7	+ 0.8	97	29†	68	2	25[a]	9.94	+ 3.31	1.46	0	20	8	5	18	se.	C. S. McFarland.
Burrwood	Plaquemines	1	24	82.8	+ 0.3	97	13	65	1	21	5.33	− 1.93	1.02	0	9	24	5	2	sw.	Graham Meyers.
Cades	St. Martin	.....	2	80.6	.....	98	30	68	1	25	5.70	.....	1.65	0	14	12	11	8	s.	C. E. Smedes.
Calhoun	Ouachita	180	24	81.7	+ 0.4	99	26†	64	28	32	3.94	− 0.53	1.22	0	13	10	19	2	s.	North Louisiana Expt. Sta.
Cameron	Cameron	6	19	78.3	− 3.5	98	27	62	15	31	2.94	− 4.76	1.04	0	9	8	23	0	sw.	Adolph Bruckert.
Carrollton	Orleans	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Loyola College.
Cheneyville	Rapides	67	24	82.6	+ 1.0	98	26	69	1†	27	6.78	+ 1.42	2.65	0	12	19	3	9	s.	Walter I. Tanner.
Cinclare	West Baton Rouge	.....	2	81.6	.....	97	30	68	27	28	6.35	.....	1.02	0	15	6	10	15	s.	Cinclare Central Factory.
Clinton	East Feliciana	113	24	79.6	− 1.2	94	25	67	1†	23	4.72	− 2.31	1.48	0	21	5	23	3	n.	John A. White.
Collinston	Morehouse	65	11	83.5	+ 1.4	100	26	65	28	28	5.14	− 0.38	0.96	0	12	8	7	16	s.	John B. Reily.
Columbia	Caldwell	127	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. W. Blanks.
Covington	St. Tammany	39	20	81.8	+ 0.6	99	27†	68	2	27	11.46	+ 3.99	4.09	0	14	15	4	12	s.	Cecille P. Champagne.
Dodson	Winn	.....	3	82.4	.....	100	29	67	12†	32	4.06	.....	1.58	0	11	15	15	1	s.	J. P. Lucas.
Donaldsonville	Ascension	33	24	82.6	+ 1.4	98	25†	70	1†	25	11.23	+ 5.46	1.78	0	17	14	6	11	s.	John F. Park.
Dutchtown	do	.....	1	.....	.....	.....	.....	.....	.....	.....	7.64	.....	1.46	0	16	9	17	5	.....	Picard & Geismar, Ltd.
Farmerville	Union	117	24	80.6	− 0.5	97	25	66	27	26[a]	5.05	+ 0.32	1.12	0	14	10	19	2	s.	W. P. Chandler.
Ferriday	Concordia	.....	5	83.4	.....	96	26	72	1	16	5.91	.....	0.98	0	12	.....	.....	.....	.....	C. L. Achor.
Franklin	St. Mary	10	20	82.2	+ 0.1	100	30	70	1†	26	12.75	+ 3.31	2.66	0	18	10	12	9	s.	J. M. Bonney.
Franklinton	Washington	.....	2	81.0	.....	98	25†	66	8	28	9.78	.....	2.20	0	17	6	10	15	.....	Herbert R. Babington.
Grand Cane	De Soto	302	18	79.3	− 2.0	103	29	59	12	41	6.08	+ 2.49	1.97	0	6	14	6	11	s.	G. Foster Provost.
Grand Coteau	St. Landry	93	24	81.7	+ 0.4	97	26†	68	28	27	5.74	− 0.74	1.25	0	11	11	20	0	se.	St. Charles College.
Gueydan	Vermilion	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	White Lake Land Co.
Hammond	Tangipahoa	44	20	81.5	+ 0.1	97	26†	67	2†	28	7.95	+ 1.58	2.30	0	13	11	14	6	sw.	C. C. Carr.
Houma	Terrebonne	.....	24	81.4	− 0.1	97	30	67	10	25	7.24	− 1.99	1.35	0	15	10	0	21	se.	J. M. Foote.
Jena	La Salle	.....	1	82.2	.....	100	26	66	28	32	5.23	.....	1.33	0	10	6	24	1	w.	C. E. Wilbanks.
Jennings	Calcasieu	30	15	82.6	+ 1.1	100	26†	70	1†	28	7.77	+ 1.94	1.90	0	15	5	20	6	se.	J. F. Buch.
Laark	Morehouse	.....	...	77.9	.....	99	28	50	27	44	5.82	.....	1.65	0	9	10	6	15	sw.	P. M. Donley.
Lafayette	Lafayette	36	24	82.3	+ 1.1	98	30	70	1†	25	8.17	+ 1.03	3.44	0	14	17	5	9	e.	J. J. Davidson.
Lake Charles	Calcasieu	22	24	81.2	− 0.1	102	29	64	1	33	6.84	+ 0.20	1.89	0	11	18	8	5	s.	George Boudreaux.
Lakeside	Cameron	9	10	82.4	+ 0.4	96	26†	71	4†	21	3.29	− 4.42	0.73	0	10	.....	.....	.....	se.	L. J. Nunemacher.
La Rose (near)	Lafourche	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Louisiana Delta Farms Co.
Lawrence	Plaquemines	6	21	83.8	+ 1.1	99	26†	69	1	24	10.30	+ 3.08	2.20	0	19	13	6	12	s.	H. C. Warmoth.
Leesville	Vernon	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. McFarland.
Liberty Hill	Bienville	.....	24	83.2	+ 0.6	101	26	61	30	36	5.44	+ 0.19	2.78	0	9	18	2	11	s.	E. A. Crawford.
Logansport	De Soto	192	8	.....	.....	.....	.....	.....	.....	.....	1.64	.....	1.04	0	5	21	0	10	s.	Bettie M. Dennis.
Melville	St. Mary	45	24	84.8	+ 3.2	100	24	72	1†	26	5.45	− 0.47	1.50	0	13	15	4	12	se.	Charles B. McNeill.
Merryville	Calcasieu	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. P. Windham.
Minden	Webster	194	24	82.8	+ 0.5	104	30	66	12	34	2.47	− 1.68	0.67	0	10	12	16	3	s.	Ethel Fort.
Monroe	Ouachita	82	24	84.1	+ 1.9	101	4†	68	12†	33	4.89	− 0.07	1.10	0	16	11	8	12	w.	L. L. Smith.

TABLE 1.—*Climatological data for July, 1912. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Louisiana—Continued.																				
Morgan City	St. Mary	14	6	.....	.....	.....	.....	.....	.....	.....	7.11	.....	1.83	0	11	12	1	18	se.	Virgil E. Kinsey.
Newellton	Tensas	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John D. Fultz.
New Iberia	Iberia	15	24	82.2	+ 0.8	95	22	70	1	20	7.15	− 0.18	1.30	0	16	10	3	18	e.	Mrs. John A. Gebert.
New Orleans (1)	Orleans	51	41	81.8	+ 0.5	95	30	70	1	17	7.38	+ 0.91	1.35	0	18	7	6	18	se.	U. S. Weather Bureau.
New Orleans (2)	do	18	24	82.2	− 0.1	98	26	69	2†	26	10.36	+ 3.64	2.70	0	16	6	5	20	s.	Sugar Experiment Station.
Opelousas	St. Landry	83	20	81.7	+ 0.1	96	6	67	29	26	8.82	+ 2.61	1.71	0	14	17	1	13	s.	Andrew Moresi.
Paradis	St. Charles	.....	1	.....	.....	.....	.....	.....	.....	.....	5.52	.....	1.84	0	8	.....	.....	.....	.....	R. E. Boyce.
Pearl River	St. Tammany	29	6	.....	.....	.....	.....	.....	.....	.....	5.02	.....	1.30	0	13	20	8	3	w.	George F. Banks.
Plain Dealing	Bossier	268	20	83.3	+ 1.7	102	29	68	12	31	1.13	− 3.75	0.55	0	5	12	16	3	se.	Leon Sanders.
Rayne	Arcadia	44	20	81.8	− 0.4	100	31	70	1†	26	5.10	− 1.88	1.60	0	11	17	4	10	s.	A. P. McNeil.
Reserve	St. John Baptist	.....	11	85.2	+ 2.9	104	31	69	11†	32	9.12	+ 2.83	2.07	0	12	11	8	12	.....	Leon Godchaux Co., Ltd.
Richland Plantation	Rapides	.....	.....	80.3	.....	92	27†	70	1†	21	5.59	.....	1.12	0	17	19	4	8	s.	A. B. Pendleton.
Robeline	Natchitoches	147	16	82.8	+ 1.7	102	29	62	12	33	3.40	− 1.23	1.00	0	6	18	6	7	e.	Ruby McCook.
Ruston	Lincoln	312	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andor M. Larson.
St. Francisville	West Feliciana	115	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Newman.
Schriever	Terrebonne	17	20	82.6	+ 0.8	99	31	67	11	26	8.24	− 0.67	1.60	0	11	22	3	6	e.	Harriet F. Riviere.
Shreveport	Caddo	249	41	83.0	+ 0.9	98	29	68	31	24	3.73	+ 0.01	2.44	0	7	16	14	1	se.	U. S. Weather Bureau.
Simmesport	Avoyelles	42	6	.....	.....	.....	.....	.....	.....	.....	3.65	.....	1.67	0	17	13	0	18	n.	C. T. Leigh.
Southern Univ. Farm	Jefferson	.....	15	.....	.....	.....	.....	.....	.....	.....	6.00	+ 0.15	1.15	0	14	10	9	12	se.	F. L. St. Martin.
Sugartown	Calcasieu	.....	19	81.9	+ 0.2	96	29	66	1	23	4.74	− 0.33	1.22	0	7	3	27	1	.....	G. W. Richardson.
Tallulah	Madison	91	5	82.4*	.....	99	31	67	30	32*	4.02	.....	1.32	0	9	.....	.....	.....	.....	Neal T. Halt.
Walker	Livingston	.....	2	80.4	.....	95	30	65	28	29	11.92	.....	2.80	0	15	10	14	7	ne.	H. C. Fondren.
Winnsboro	Franklin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Carlton.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 7, Lower Mississippi Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Buena Vista	Arkansas	.60												.10	.10	T.			.30			.40	.15	.10	.60	.15	.05	.15	.05	.10	.45		3.30
Calhan	Big Sandy									.03		T.	.13	.12	.59	1.01		.04	.01		T.			.03	.22			.07		.03	.89	.32	3.49
Canon City ‖	Arkansas	.60	T.									T.			T.	.25	.28			.12				.06	T.	.02			.16	1.36	.25	.02	2.52
Colorado Springs	Fountain	T.			.38					.23	T.		.01	.06		1.15	.01	.02	.02	.02	.03		.02	T.	.19	.25	T.	T.		.18	.01	.08	2.66
Cripple Creek	Oil Creek	.18	.05	.02	.06	T.					.07		.02	.02	.04	1.40	.08		.14	.05		.64	T.		T.	.20	.04	.10	.25	.35	.86	.02	4.59
Cuchara Camps	Cucharas	0.6											.06	.21	1.98	.36					.09		.16		.84			.06					3.82
Eads	Big Sandy																																
Fairview	St. Charles							.21						.31	.57	.42					.10	.19		.27			.18	.28	.19	.10	.14	.17	3.13
Fremont Exp. Sta. ‖	Fountain	.07	T.		T.	T.				T.	T.		.18	T.	1.48	.33		.03	.01	.39	.15	.05	.05	.12	.09	.14	.05	.37	.05	.11	.13	.82	4.62
Garfield	Little Arka's	.05	T.		T.									T.		.26	.27	.03	T.	.20			.28	.02	.38	.05		.86					2.40
Hamps	Big Sandy	.15		T.								.05		.15	.09	.40										.26	.39		.04			.67	2.20
Hermit Lake	Grape Creek												.09	.16	.82		.10		.15	.42		.14	.22	.71	.60			.27				.05	3.73
Hoehne (near)	Purgatoire	.03	.31										.15			.88								.18	.12	.04					T.	.30	2.01
Holly	Arkansas		.12		T.						.18		.07		.07	.05										1.30	.21					.77	2.77
La Junta	do																																
Lake Moraine	Fountain										.12			.21	.34	1.04	.12			.24	.15	.06		.07	.34			.12		.29	.08	.07	3.25
Lamar	Arkansas										.92					.74										.92				.67	.50	.07	3.82
Las Animas	do																																
La Veta Pass	Cucharas															1.51							.08		.32		.07	T.			T.		1.98
Leadville	Arkansas	.04	.01	.01	.09									.01	.03	.13	.04		T.	.00		T.	.14	.22	.19	.11	.13	.76	.10	.16	.13	.12	2.48
Limon (near)	Big Sandy	.17		T.	T.						.36	T.	T.	.15	.47	.41		.09			T.					.75	.46	.08				2.46	5.40
Madrid	Purgatoire			.18								.06	.11	.10	.65	.20																7.03
Manitou	Arkansas																							.09	.18	.11	.03	.27		.31	.23		2.52
Marshall Pass	do			.15			.20		.10				.20	.40	.30			.10	.10	.12			.10	.18		.12	.10	.10	.12				2.39
Monument	Fountain	.01								T.	T.		.12		.81	.70		.08		.11	T.	.01		T.		.75	.04			.18	.72	.12	3.65
North Lake	Purgatoire														.12	1.00	.08	.10		.48			.10	.06		.10		.12		.18	.23		2.47
Oro	Arkansas																																
Pueblo	do	.04											T.		.40	.49			.27					T.	T.		.04	.13		.03	.80	.30	2.50
Rocky Ford (near)	do																																
St. Elmo	Chalk Creek				.04									1.00		.10	.11	.13	.20	.05		.10	.18	.10	.32	.13	.29	.12	.25	.13		.03	3.25
Salida ‖	Arkansas	.21	.15			.15										.96	.30		.10	.40	.20			.33	.01	.33							3.14
Santa Clara	Huerfano	T.	T.								T.	T.	T.		T.	4.65			T.	.06	T.		T.	.03	.45	T.		.06				.30	5.55
Sheridan Lake	Arkansas									1.50						3.80									.60					.03	.90	.20	7.03
Stonewall	Purgatoire		T.								.35		.03		.13	1.00	.15	.02	.38				.57	.13	.70	.12	.27	.07	T.	T.	.13	.42	4.47
Trinidad	do		.04	.01								.02	T.	.01	.06	.22	.23							.03	.09	.23	.06	T.		.04	.10	.05	2.19
Two Buttes	Arkansas																																
Victor	Oil Creek		.12		T.									.12		1.97	.31			.21		1.00		T.	.13			T.		1.11	.11	.12	5.20
Vilas	Cimmaron	.42																													.62	.43	1.47
Wayne	Arkansas	.21			T.					.10	T.					.91				T.	.08					.65			.41	.10	.19	.60	3.31
Westcliffe	Grape Creek			.04	T.										T.	.48	.11	T.				T.	.05		.35		.02		.32		.10	1.47
Winfield	Clear Creek	.24	.01	.14	.11	T.								.15	.08	.02	.01		.10	.02		T.	.35	.22	.49	.09	.41	.15	.01	.02	.02	.03	2.67
Woodman Sanat'm	Fountain	.18			.14				T.		T.		.19			.19	.14	.25	T.	.02	T.		.05	.02	T.	.46	.17	.19		.04	.07	.32	2.43
Wortman	Arkansas	T.	T.	.20	.20	T.	T.						T.	T.	T.	.10	.10	.13	T.	T.	.31	.11	.10	T.	T.	T.	.12	.30	T.	.17	.37	T.	2.21
New Mexico.																																	
Abbott	Canadian										T.		.05		.04	.05	T.				T.									.05			0.19
Albert	do	T.		.04													T.			T.		.10		.63		.08				.07			0.92
Aurora	do										.08	.01		.08	.05	.15	.16				.20	.84		.15	.70	.06	.03			.06		.72	3.29
Bell Ranch	do	.03	1.16	.05							.12	T.				.15	.25						.33	.05	.09	T.							2.23
Black Lake	do		T.												.25	.24	.03				.13	.42	.27	.60	.74		.25			.22			3.15
Cabeza	do	*	.30	.35	.50												.38	.50					.30	.85		.15				T.			3.33
Campana	do	T.	.48	T.													.39					.25	.18		T.							1.50
Chacon	do															.30	.48						1.24	.18		.30			.52			3.02
Cimarron (near)	do		.05								T.		.02			.24	.25	T.	T.		T.	T.			T.	.23		T.	T.	T.		.57	1.36
Clayton	do																																
Clovis	Red																.08		.20		.25				.25								0.78
Cuervo	Canadian																																
Dawson	do										T.	T.	.38		1.32	.35	.10				.90		T.		T.	.45	T.					.61	4.11
Elizabethtown	do	.04	.03	.14									T.		.18	.40	.28				.12	.22	.24	.28			.82			.12			2.87
Folsom	Dry Cimar'n		.23	.08								T.	.07	.0	T.	.47								.10	.08	.15		T.		.36	.31	.03	1.94
Fort Union	Canadian		.05								.05	T.	T.		.48	.40	.05			T.				.38			.05			.05		.08	1.59
Hayden	do	T.	.25	.05	.02						T.						.13	.10				1.25		.03				.04			.60	.53	3.23
Hoosier Ranch	do	T.	T.	.14											.10	T.					.06			.14	.06							0.50
Johnsons Park	do		.30								.50				T.	.30	T.	.07	.63					.10	.18	.14				.17	T.	.21	2.60
Kappus	do	T.	T.	.62		.06											1.02	T.		.32	.10	.38	.35				T.				T.	.38	3.23
Lake Alice	do																																
Logan	do				.26											.29	*	.21			1.44		1.15		.55								3.90
Lykins (near)	Red	.30														.50	.92																1.72
Maxwell (near)	Canadian		.25												.19	.04	.10													.11		.40	1.09
Melrose	Red																.25	.25			.27												0.77
Miami Ranch	Canadian															.04	.35				.03	.31		.08		.08		.26		*	.04	1.19
Mills (near)	do		.74	T.						T.	T.					T.	.02				.80			T.	T.	.03		T.		.32			1.91
Montoya	do																									.18							0.18
Mount Dora (near)	do		T.									.24					.35						.70			.32			.10	.33	.10		2.14
Nara Visa	do																																
Optimo	do																																
Palo Verde	do		.07	.02											.04	.03					.55		.09										0.80
Pasamonte	do		.34	.03													.30	1.34			.08	.24						.04	.13		.78	.50	3.78
Pleasant View	do	.04	.06														.05				.41				.05								0.61
Portales	Red																.24	.21		.09			.02		.36								0.92
Raton	Canadian														.01											.95			.15		.53	1.64
Rociada	do											.01			.03		.15											.16	.40				0.75
Rosebud	do		.60														.84				.52		1.02		.05	T.					.08	3.11
Roy	do														T.			.10			.55	.10	.11					T.				.10	0.96
Roy (near)	Canadian	.30	.50	.12												.20	.50				.25												1.87
San Jon	do	.18		T.	T.											1.63	.24			T.	.25	.64		T.	T.	T.		.04			T.	T.	2.98
Solano	do		.24	.05								T.					.04				.07		.08	.01	.15								0.64
Springer	do										.10					T.	.50				.10		.07	.55	.15				.20		.10	1.77
Taylor	do										T.					.15	.12						.15		.10	.05	.10			.10			0.77
Trementina	do																					.25	.20	1.01								1.46
Tucumcari	do	.03		T.												*	.65	T.			.10	*	2.10		.09	.06			*	.08			3.11
Valley	Dry Cimarron														.01	T.						.90		.80				1.10		*	.60	.70	4.11
Vance (near)	Canadian		.09		.11												.42				.03	T.	1.10	.01				.01					1.77
Vermejo Park	do											T.	T.		.11	.66	.04	.01	T.		.94		.10	.33	T.	T.	.30	.35	.05	.90	.02	1.20	5.61
Wagon Mound (near)	do		.05									.01	.01	.01	.07	.24	.20		.29					.06	.03		.11	.02		.38		.03	1.51

TABLE 2.—*Daily precipitation for July, 1912. District No. 7*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Texas.																																	
Amarillo	Canadian	.01	T.	.16	T.			T.									T.	1.03			.20	.03			T.		.12	.12		.17	.04	1.88
Archer City	Red						.71																							T.		0.71
Arthur City	do																															0.00
Bonham	do	.59					.59										.56															1.74
Canadian	Canadian																															
Childress	Red																	1.70														1.70
Chillicothe	do						.18												.60			.22										1.00
Clarendon	do		.25			.80													.54								.14					1.73
Clarksville	do	1.60										.40									.48											2.50
Claude	do						.15											1.81														1.96
Delhart	Canadian		T.	.36	.01				.20		.45							.06				.06	.23									0.72
Denison	Red		.10																													0.75
Finley	do																		.50	.43	.28											1.21
Henrietta	do	.50					.25	.02																								0.77
Hereford	do																															
Memphis	do																															
Miami	Canadian	T.	.05	T.		1.15	.65											.73				.56				.15		.18			T.	.72	4.19
Mobeetie	Red																															
Ochiltree	Canadian																															
Panhandle	do												.03			.02					1.50											1.55
Paris	Red	.93						1.21				.30					.01	T.		.09	.04		T.									2.58
Plemons	Canadian	.16	.31	.34	.10												T.				T.	.11				T.					.01	1.03
Quanah	Red					T.	.56										T.		T.												T.	0.56
Ringo Crossing	do	.90							.54														1.54									2.98
Romero	Canadian			.39	.12													.20			.22	.24	.10			T.	T.			.32		2.59
Sherman	Red	.24	.07						.18																						T.	0.49
Stratford	Canadian		.31	.22	.75																					.20			.05	.03		1.56
Texline	do			.50															2.20							.50			.25			3.45
Tulia	Red	.01	.01	.02	.09	.13	T.										.70	.09			.05	.26					.22	T.	T.	T.	T.	1.58
Wellington	do				.35	.80	.10									.10		.08						.15								1.58
Wichita Falls	do																												.04	.70		2.87
Winfield	do	.04					1.15				.03				.27				.30		.34											
Kansas.																																
Alden	Arkansas	.15				.17											1.10				1.88											3.30
Anthony	do	.20		.02		.14	.03				T.						T.	.17				T.					T.			T.		0.56
Ashland	Cimarron					.27											.28	.79								.44	.04	.23	.16		.32	T.	2.53
Burlington	Neosho		.23	.38		.03																.04			.30				.21				1.19
Chanute	do		1.73				.18				.04												T.			.27			.23				2.45
Cimarron	Cimarron		.97	.18	T.	.12											T.	.96			1.55					.06				.70		.35	4.89
Coffeyville	Verdigris																															
Coldwater	Cimarron			T.	.05	.19					T.						.11	.38								.43	T.	T.	T.		.20	T.	1.36
Columbus	Neosho		.98			.08					.90	.80						.04											.01				2.81
Coolidge	Arkansas																		.20						1.70						.80	2.76
Cottonwood Falls	Neosho		.07	.41		.36	.02				.01		.08				T.					.34				.14	T.		.25				1.68
Council Grove	do	.41	.24	1.31		1.06					.02		.11									.68				.11	.06		.03				4.03
Cunningham	Arkansas		.25	.22		.40					T.						T.	1.25				.45				T.							2.57
Dodge City	do	.21	.06		.01						T.							.13			T.	.03					.02				.42	T.	0.88
El Dorado	do	T.	T.	.05		.42					T.		.04			T.						.50				T.	.06	T.	.07			T.	1.55
Ellinwood	do	.15	.04	.18		.24					T.							.23			.29	.29					.20			.06			2.68
Emporia	Neosho		.61	.79			.64					T.	.02					.03				.32	.01				.20						0.87
Eureka	Verdigris	T.				.04					T.		T.				T.					T.				.45	.30		.08				
Fall River	do										T.											T.	T.	.12			T.		.10				
Fargo	Cimarron		.08		.64													1.25			.10									.55	.15	2.77
Fredonia	Verdigris		.28			.22					.20	.11											.50			.18	T.		T.				1.49
Garden City	Arkansas	T.	.25	.10	.50						.03			.06		T.		.12							21	.03	.03				.30	.15	1.57
Great Bend	do	.50	.10	.17		.30	.10											.80				.70				.20		.20				3.28
Greensburg	do	.22				.55												.40								12		T.			.10		1.39
Grenola	Verdigris		.35				.04				T.							.76								03							1.18
Hess	Cimarron				.74												T.	1.90			.79					T.					.87	.03	4.33
Howard	Verdigris		.03								.15															T.	.06		T.				0.24
Hugoton	Cimarron																															
Hutchinson	Arkansas		.05	.28		.11					T.							.15				2.21					.15		.40				3.35
Independence	Verdigris		2.80				.02				T.	.43	T.					T.					T.			T.			T.				3.25
Iola	Neosho	.06	.45	T.		.06	.03					T.		T.			T.					.34	.23			.23			.09				1.49
Irene	Arkansas											T.		T.		.62	.10	T.						T.	.03	.12	.29				T.	.95	2.11
Jetmore	do	T.	.10	.03	T.	.39					T.			T.				T.								T.	T.				.06		0.58
Kingman	do	T.	T.	.26		.25					T.					T.	T.	.47				.75							.20				1.93
La Crosse	do	.20		.13							T.			.02			T.	.20							.02	T.	.04			T.	T.	0.61
Lakin	do	T.	.04	.06								T.				T.													.78		T.	0.88
Larned	do	.03	.05								T.						.07	.85				.02				.03		T.			T.	1.05
Lebo	Neosho	T.	.56	.91		.05	T.				T.	.02	.02				.05					.07				.14		.11				1.93
Le Roy	do		.16	.66			.06						T.	T.								T.				T.	.07	T.	.11				1.06
Liberal	Cimarron	.04	T.	.20	.24	.08					T.			T.			.02	.11			T.	.70				.14		.02			.16	.01	1.72
Macksville	Arkansas	.03	.84				.14										.06	1.10	.07			.05					.01						2.30
McPherson	do		.55	.02			.05				.02											1.02					.10		.03				1.79
Madison	Verdigris	.10	.23	.99		.75					.02	T.	.03									.25	.41							.53			3.31
Marion	Neosho	.25	.20	.15		.35					.05		.75			.05	.03					.73				.02	.52		.36				3.46
Medicine Lodge	Arkansas	T.		.16		.75					T.						.02	1.75				T.											2.68
Medora	do		.04	.11		T.	.07						.01					T.	.05			.57					.07		.14				1.06
Minneola	Cimarron																.05	.38								.17					.41	T.	1.01
Mount Hope	Arkansas		.37				.12				T.							.23				.69							.21				1.62
Neosho Rapids	Neosho		.48				1.14						.05				.02					.20		T.				.60					2.49
Ness City	Arkansas											.36	.04	.07													.09				.10		0.66
Newton	do		.18	.12		.11							.03				.04					.90				.65	1.65		.20				3.88
Norwich	do		T.	.09		.03					T.		T.			.12		.65				.82							T.				1.71
Oswego	Neosho		1.85			.42					.41	.62											.10										3.40
Plains	Cimarron	T.	T.	.20	.10	.21					T.						T.	T.				1.25				T.				1.00	.09		2.85
Pratt	Arkansas	.30	1.40			.32												.25				.12				.03							2.42
Richfield	Cimarron	.12	.34	.73													.03									.10	.09				.14		1.55
Rome	Arkansas		T.			1.00	.03						.02					1.07					.02						.02				2.16
Sedan	Verdigris		.49	T.			.30												1.32				.18										2.29
Toronto	do		.98									.62											1.25			.70			.33				3.88
Ulysses	Cimarron	T.	.10	.12	.73						T.					29		.24						T.	T.			12		T.	.20	.27	2.07
Walnut	Neosho	T.	.53				.05				.41	.32											.03			.09	.02		.10				1.55
Wellington	Arkansas	T.	T.			1.63	.22						T.					1.00											T.				2.85
Wichita	do	.01	T.			.10	T.				T.		T.				T.	.52				.17	.34				T.		.14				1.28
Winfield	do	T.	T.			.73								.04				.60				.11	T.	T.									1.48
Yates Center	Verdigris	T.	1.65								T.	T.											.85		.38				.12				3.00

TABLE 2.—*Daily precipitation for July, 1912. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oklahoma.																																	
Ada	Canadian	.26														.27															.27		0.80
Alva	Arkansas	T.	T.			.40				T.	T.	T.				T.	T.	T.				.10								T.	T.		0.50
Apache	Red	.17					.63												.29												.30		1.39
Arapaho	Washita					.55																.16							.18		.30		1.19
Ardmore ‖	Red	.11	.09				T.																									.04	0.24
Arnett	Canadian																																
Bartlesville	Arkansas		.01																										.02				0.03
Beaver	Canadian	T.	T.	.25	T.					T.	T.						.03	.04				.83				.15						.52	1.82
Blackburn	Arkansas					.25																											0.25
Cache	Red						.75												.55														1.30
Calvin	Canadian		.08																											T.	.08		0.16
Chandler ‖	....do			.18			.93										1.04													T.			2.15
Chattanooga	Red	.36					.38												T.													.04	0.78
Chickasha	Washita	.83					.42									.44	T.		T.											T.	.17	T.	1.86
Cloud Chief	....do		T.			.35	.10				T.								.36										T.		.10		0.91
Crawford	Canadian					.30												.20									.05			.10	.10	0.75
Durant ‖	Red	T.	.03																			T.											0.03
Eldorado	....do		T.	T.		.61	.22									T.		T.	.38	T.											T.	1.21
Elk City	....do	T.	T.			.77	T.															T.							T.		T.	T.	0.77
El Reno	Canadian					.02	.88									.30													.07				1.27
Enid	Cimarron	.25	.06				.24					.20						.01												.20		T.	0.96
Erick	Red		T.			.10	.13											.10	.08			T.							T.	T.	T.	.11	0.52
Eufaula	Canadian	.07										.30				T.															.29		0.66
Fairland	Arkansas		.18				.52					.23					.25	.15	.06										T.		T.		1.39
Fort Gibson	....do	.20	T.							.20		1.20							T.											.30		.41	2.31
Frederick	Red					.42	1.46											.04	.20			.04							.10			.01	2.27
Geary	Canadian	.34	.11			1.26																T.							T.		.04		1.75
Goodwell	....do				.37										T.			.14			.19	.05									.37	.78	1.90
Guthrie	Cimarron	.55	.10			2.20	1.05											1.35											T.				5.25
Guymon	Canadian																																
Hartshorne	....do	T.										.10				T.		.10	T.		T.										.30		0.50
Healdton	Red	.93														T.			.59												T.	T.	1.52
Helena	Cimarron	.06	T.			T.	.14									.05		T.											T.		T.		0.25
Hennessey	....do	.10				1.40																							1.12				2.62
Hobart	Red	.03				.33													.08			T.							T.		.07	.24	0.75
Holdenville ‖	Canadian		.15														.43																0.58
Hooker	....do	T.	.27	.80	.27						T.							.40			T.	.04				.26					.05	.10	2.19
Hurley	Cimarron																																
Idabel	Red	.10									T.					.50	T.				.40										1.80	T.	2.80
Jefferson	Arkansas						.97	.30				.07						1.05															2.39
Kenton	Cimarron		.08		.10													.14					.18	.05		.20		T.			.08	.22	1.05
Kingfisher	....do	.21	.12			1.12												.15											T.		.11		1.71
Lawton	Red	.04				.31																									.02	T.	0.37
McAlester	Canadian	.12										.44																			.02	.26	0.84
Mangum ‖	Red	T.	.05			.20	1.30																							.09	.05	.07	1.76
Marlow ‖	Washita	.07	.32				1.65																									T.	2.04
May	Canadian	.12		.04	T.	.85					T.					T.	T.	.60											T.		1.42		3.03
Meeker	....do	.40					1.00									.25																	1.65
Muskogee	Arkansas											.56						T.													.02	.15	0.73
Mutual	Canadian					.30																.18						.25			.15		0.88
Neola	Washita	.04	.05			.21													1.46										T.		.10	T.	1.86
Newkirk	Arkansas					.25	.50											.80				.20								.25			2.00
Norman	Canadian	.20	.05				.52																							T.	T.		0.77
North Muskogee	Arkansas	.22										.32																				.16	0.70
Oakwood	Canadian	.10	T.	T.		.63	.31											.01											T.	.08			1.13
Okeene	Cimarron	.32	T.			.02	.20											.31				.10							.04		T.	T.	0.99
Okemah	Canadian	.30					.13					.01																			.85		1.29
Oklahoma	....do	1.60	.01			.70										T.													.01		T.		2.32
Okmulgee	....do	T.										40																		T.	.25		0.65
Pauls Valley	Washita	.46				.16																									.16		0.78
Pawhuska	Arkansas		.03			.18	.19											1.70											.07				2.17
Perry	....do	.12	T.			1.85											.45												.09				2.51
Rankin	Red	.12				.72												T.				.09										.25	1.18
Ravia	Washita		.21													.53																	0.74
Sac and Fox Agency	Canadian																																
Shawnee ‖	....do		.37				.56										.37	T.															1.30
Snyder	Red	.24					.31											.65														T.	1.20
Stillwater ‖	Cimanon	.02	.01			1.10											.12	.25															1.50
Tulsa ‖	Arkansas		.05	T.			.08										T.		T.				.25							T.			0.38
Vinita	....do		.10									1.07					.68													.10			1.95
Wagoner	....do																	.80											.05		.60		1.45
Waukomis	Cimarron	.08	T.			.52	.47																								T.		1.07
Waurika	Red	.30					1.08									.16	.05		.74												T.		2.33
Weatherford ‖	Canadian	.06	.03			.05	1.04					.37											.04							.25		.42	2.26
Webbers Falls	Arkansas											.75									T.									T.	.76		1.51
Whiteagle	....do	.01				.21	.34											.18													.01		0.75
Woodward	Canadian	.25			T.	.50												2.00				.01									.49		3.25
Wyandotte	Arkansas		.40				.30					.50							1.31														2.51
Missouri.																																	
Belle	Meramec		1.20	.75							.50											.40	.70		1.80								5.35
Birchtree	Black		.14								.21	.12					2.10	.50					1.90						.30				5.27
Cape Girardeau ‖	Mississippi	.10	2.00	.40	.85				.10			.20										.10	.50			T.							4.25
Cardwell	....do	1.52	.30			.21	.52					.90				T.	.22		.41														4.08
Caruthersville	....do	.95	1.01		T.	.07	.05					T.					T.	T.	.73		T.										.95		T.	3.76
Cassville	White	.04	.54				.07				T.					.02	.75	1.07													.04			2.53
Dean	Neosho	.03	.04				.95				T.	.07				T.	T.	.19																1.28
Doniphan	Black	1.05	.55				1.10	T.			.15	.36						.40		T.			.93						T.	.15			4.69
Gano	Meramec		.05	.07			.28	T.			.38	.06						.21				T.	.33										1.38
Goodland	Black		.68									.39					.04	.13	.16			.89	.13						.34				2.76
Hollister	White		.85								.50								.40												.15	.10		2.00
Ironton ‖	Mississippi	T.	.07	.18	.05	T.		.95				.40		T.			T.		2.77			T.	.65	T.							T.			5.07
Jackson	....do	.74	1.04	.14		.81	.15				.55								.05			.77						.02					4.27
Joplin	Neosho																																
Koshkonong	Black	.27	.14	.02			.06					.14					.33	1.40			T.										.17			2.53
Lamar ‖	Neosho	T.	.47	.04			T.					.41							.46				T.			T.	.03	.13			.02			1.56
Marble Hill	Mississippi	.20					1.00				.70												.63			.65								3.18
Mountaingrove	White						T.	1.27			.67	.37					T.	.58	.05			.34	1.25											4.53
Mount Vernon	Neosho		1.69								.05					.45	T.	.08				T.	T.				.12		.08	.45		.70	3.62
Neosho	....do	T.	.20				1.09					.65				.09																.52	2.55
New Madrid ‖	Mississippi		.40	.06	.10		.80		.60			.53								.40														2.89
Oakfield	Meramec	T.		.64			T.	.89			.17		T.					1.27				T.	.02			T.			T.					2.99
Olden	White		.48				.43					.35				.30	.63	2.30											.87					5.36
Rolla	Meramec	T.	T.				T.				.17	.11	.02			1.24		2.13				.27				.24								4.18
Springfield	White	.01	.71								.26					.04	.06	.01				.29	.01			T.	.01		T.					1.40

TABLE 2.—*Daily precipitation for July, 1912. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kentucky.																																	
Blandville	Mississippi	.06	.24	.20	.04	1.09													.07		.01		.13			T.							1.84
Tennessee.																																	
Arlington	Mississippi		.90	.08			.85	1.20	T.			.08						.79		.72	T.								T.			4.62
Bolivar	do	.49	.39	T.			T.	.85	.87	.04			T.						.15	.28										T.		3.07
Brownsville	do	.15	.37	.42			.16	.07	.60	T.		.21						.36	T.	.10									.09			2.53
Covington	do	.03	.30	.20			1.20	1.90	.34			2.00						.14		.78									T.			6.89
Dyersburg	do	.50	2.00	1.67			.57	.10	1.90	T.		.15								T.									T.			6.89
Jackson	do	.64	.74			.09	.45	.66	.05	T.								.02	T.	T.	T.	.01							T.			2.66
Kenton	do	.53	1.24	.21			.82					.08							.27			T.										3.15
Memphis	do	.08	.30				2.19	T.			.28	.01						T.	T.	.13									.28		T.	3.27
Milan	do	T.	.90	2.01			.20	.85	5.15	T.								T.	.06		T.		.02						T.			9.19
Trenton	do	.75	.65			.55	.10	.09				.05						.05		T.									T.			2.24
Union City	do	.90	.16			.67	.12	.06				.18						.11		.01												.01	2.22
Arkansas.																																	
Alicia	White	1.02	1.90					.35										.05															3.32
Amity	Ouachita						.50												.20		.45										.90	.80	2.85
Arkadelphia (near)	do	1.96							.36		.30	.47				.08				.34	.09												3.60
Arkansas City	Mississippi	.10		.10				.60					.95					.68		.40	.20										.16		3.19
Batesville	White	1.72	.02	.34					.08			.58							.70		.06									T.	T.	3.50
Bee Branch	Arkansas	.70	T.				T.	T.				.10						T.	T.		.10											0.90
Benton	Ouachita	.97											.45							T.										T.	.26	1.68
Bentonville	Arkansas	.02	T.			.04	.36					T.				T.	.01				T.											0.43
Bergman	White	.33	.72					.36									.04											1.23				2.68
Black Rock	do	.44	.11	1.67				.04	.07			.94							.55	.54										.06			4.42
Brinkley	do	.63		3.86				1.08				.11									T.	T.									.13		5.81
Calico Rock	do	.10	.08	2.75				T.				T.								T.												T.	2.93
Camden	Ouachita	.25	.40									.91	.43				.09				.26	.05										.49	2.88
Centerpoint	Red	1.30					.20					T.			T.	T.	T.				T.	T.									1.00	T.	2.50
Clarendon	White	.11	.04	4.00				.05				.05						.35	.01	T.	.03										.14		4.78
Conway	Arkansas	.11					T.	.05							.05	.02	.24	.20			T.	.21									.28		1.16
Corning	White	.55	.16					.94				.54					.73		T.		.03		.09							.36			3.40
Dardenelle	Arkansas		T.							.22							.09	.40	T.			.18										.50	1.39
Dodd City	White	.65	.10					T.			T.							T.							T.		.10		2.10				2.95
Dumas	Arkansas		2.55				.52					.55				.79			.15	.10									.45				5.11
Dutton	White	.10					1.84	.04			.50					T.	.20	.45									.29				.15		3.57
Eldorado	Ouachita	.10	.02				.11				.04	1.28	.04				.18		.07	.08	.35			T.				.09			.21	.24	2.81
England	Arkansas	T.	.15	.32				.72				.02							.08	.22	T.	T.						T.			T.		1.51
Eureka Springs	White		.35				.18					.42					T.									T.						0.95
Fayetteville	do	.12	.05				.43					.05						.31												2.10			3.06
Fordyce	Ouachita	.49							.62								.15	.48	.06	.58												.25	2.63
Fort Smith	Arkansas								T.			.02					T.	T.	.20		.02									.20	.34		0.78
Fraziers Turnpike	do								.49									.05													.65	1.19
Fulton	Red	2.16	.68														T.			T.	.16										2.00	5.00
Hardy	White	.17	1.25	.02			.27	.11				.12					.02	T.			T.	T.								.12			2.08
Helena	Mississippi	1.10	.01	.40			.03					.01	.09				.01	.16		.66											.52		2.99
Hot Springs	Ouachita								.30						.12	T.	.03		.12	.09	.08											.72	1.46
Huttig	do											1.03	.07			.07	.59		.02	.98	.12					.04				.33		.49	3.74
Jonesboro	White	1.50	.33									.40					.05	.05	.40		.05												2.78
Junction	Ouachita								T.	.46		.32		.31		T.	.10	T.	.30	.68			T.									.78	2.95
Lake Farm	Arkansas	.80					1.70																			1.10							3.60
Lewisville	Red	1.57														.27				.12						.22				T.	1.32	3.50
Little Rock	Arkansas		T.				.42	T.	.40	T.	T.	.35					T.	.40	.12	.02										.01	.07	.14	1.93
Lutherville	do	.03	.20				.05									.28	.02	1.02			.22									T.	.17	.32	2.32
Malvern	Ouachita	.30						.90					1.22								T.					T.							2.42
Mammoth Spring	White	.21	1.91			.59			.37	.03							.61				.26								.04				4.02
Mena	Ouachita	1.26					.80	.05								.12			.06	.04									.55	.05		2.93
Newport	White	.55	.25	.37				.28	.38			.57						.07	.27	.11						.75			.75			4.35
Pine Bluff	do	.40								.71						.80	T.		.26	.24	.32											2.73
Pocahontas	do	.95	1.90					.30				.19					1.07	.70											.10			5.21
Pond	Arkansas	.02	.04				.03					T.				T.	.27	T.											.02			0.38
Portland	Ouachita	.06	.30	.01				1.45					.60								23		.10		.20						.86	T.	3.81
Prescott	do	1.80	.10										.05				.09			T.		.06									5.05	7.15
Rogers	Arkansas											.05					.02								T.		T.		T.	.34		0.41
Springbank	Red	.23						.06	T.			T.	.20			.04	1.11		.35	.54	.08	T.		.13						T.		.30	3.04
Stuttgart	Arkansas	.02	.14				.61					.25							.32											.02		T.	1.36
Subiaco	do	.26				T.		.48									T.	.04				T.									.75	.38	1.91
Swain	White	.30						1.12			.05						.08				.08									T.	.72		2.56
Texarkana	Red	1.55						T.									.15			.15	.18											.22	2.25
Warren	Ouachita						.23	.92					.10				.43		.10		.09										.10		1.57
Whitecliffs	Red	1.95	.10						.52												.23												2.80
Wiggs	Ouachita	.36	T.				.24		.68			.08				.03	1.32	T.	T.	.11	.22						T.			T.	T.	.60	3.64
Wynne	St. Francis	.43	.05	.58				.44	.02			.67					.02														.90		3.11
Mississippi.																																	
Anguilla	Yazoo	T.				.50				.95		1.16	.10				.40	2.40	.85	.05	T.		.50	T.					T.			6.91
Austin	do	.46	.26	.61			1.86		.09							T.	T.		.29	.16									1.76		T.	5.49
Batesville	do	.40	.10	.35				.06					.25						.10	.05												.06	1.37
Big Creek	do	.09	.10	T.		T.	.04			T.		.04		T.	.24			.28	.25	T.									T.		T.	1.04
Byhalia	do																																
Canton	Big Black	.10	.01							.87		.24				.50			1.20	.96		.01										.01	3.90
Charleston	Yazoo	.33										.05			.25		.20		.42														1.25
Clarksdale	do	.12	.25	1.85			.23				.11	.10	.49				1.25			.31	.29		.01								.27		5.28
Cleveland	do	.72	1.00										.11		.20				.49												.29	T.	2.81
Coffeeville	do																																
Corinth	Mississippi	.70	.56				.94	.35	1.06	.02							.01		.14	1.20	.02					.16				T.			5.16
Crenshaw	Yazoo	1.36	.28			T.	.35					.08			.07	.05	.03	.01	.03	.19	.02								.76		.04	3.27
Denmark	do																																
Duck Hill	do	.30	.60	.35		.30	.43	T.	.52	T.	T.	.48			.19			.82	2.56	.10									T.		.78	7.43
Edwards	Big Black	.20		.45			T.		.85	2.10	.03					.85	.80		.35	1.20			.05								.15	7.03
Enid	Yazoo																																
Fayette	Mississippi	T.	.29			T.			.34		.46				.47	1.40			.34	.21	.43	T.	.65									.46	5.05
Greenville	Yazoo	.04	.07	.31							.01		.07			.03	.10	T.	.02	.02				.05								.10		0.82
Greenwood	do		.10	.07					T.				.21		.16	2.24	.80		.66	.28	.08									T.			4.60
Grenada	do																																
Hernando	do	.20	.25	.16				.12	.35			.41									.23	.26									.38		2.36
Hickory Flat	do	1.50				1.60	2.00							.08	.03				.60	1.05									.02			6.88
Holly Springs	do	.09	.31	.03	.01		.02	1.39				.02				.30			.05	.37	.31									T.			2.90
Kosciusko	Big Black	.35	.33	.10					.42	.05	.01					.48	.67	.05	1.15	2.92	.11												6.64

TABLE 2.—*Daily precipitation for July, 1912. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Mississippi—Contd.																																	
Lake Cormorant	Yazoo																																
Lula	do																																
Malone	do	.74	.43			1.55	.76					.24				T.		.44	.75								.03					.40	5.34
Marks	do																																
Natchez ‖	Mississippi	.35							1.10	.11	.21		.11	T.		.76		.82				1.07	.47	.13		.73			.36				6.22
New Albany	Yazoo																																
Pontotoc	do	1.48	T.	T.	T.	T.	T.					T.		T.	T.	T.	T.	.50	.90	.15						T.				T.		T.	3.03
Port Gibson ‖	Mississippi	.20	.07	.01			.40			.17	.75	.01	T.	.05	T.	T.	.46	T.	.12	1.78	.53	T.	.26	.53									5.34
Rosedale ‖	Yazoo	.08	.10	.04			1.20			.05		.15	1.15				.60			.12		.03								.60		4.12
Senatobia	do			.46			.12													.15								1.35				2.08
Shoccoe	Big Black	T.	T.			1.98		T.	T.	.70		.94			T.	.35		.11	1.01	T.	T.	T.									T.	5.09
Suffolk	Mississippi	.15	.01	.05	.03	.17		.02	1.06	.15	.05		.02		.29	.52	.02	.27	.21			.04	.24				.01				.01	3.32
Swan Lake ‖	Yazoo									.15						.57	.22	.02	.16													1.12
Tchula	do	.09										.83			T.			.20	.85	.61		T.										2.58
University	do																																
Utica	Mississippi	.34	.16			.17				.13	.38	T.	T.			2.70	.08	.53	2.26	.60			.17									.28	7.80
Vicksburg	do	T.	.03			.14	.01	.28	.48	.33	.03	.03				1.28	.15	.11	.31	.15	T.		.27				T.			T.			3.60
Water Valley	Yazoo	T.	T.	.30		T.	T.	T.		T.					T.		T.	.51	.25	.63	T.										.10	1.79
Woodville	Mississippi	.10	.05	1.10	.14		.05	.24	.25		.45			.16	.12	.11	.93		.22	.07		.28						.12					4.39
Yazoo City ‖	Yazoo	.15	.19				.03				.88	.02	.68	.18			.08		1.28	.58	.19											4.26
Louisiana.																																	
Abbeville	Coast	.67	.15	.45		.08	.16	.21	.22	.25		.96	.13	.39	1.70	.60	.26		.60	.08	.03	.12											7.06
Alexandria ‖	Red		.90	.25				.15		T.			T.				1.93	.10	.50	T.	.57	.60	.66				.42		T.				6.08
Amite ‖	Coast		1.58	1.50	T.	.08	2.05	T.	.45	.10	.10	2.20			T.	.50	.15	.35	.35	2.50			.30					T.					12.21
Antioch	Red								.20	.22			.37				.30	.02	.08	.38			.97				.10			.22		.71	3.57
Avoca Island	Coast	.50	.65					.70	.70	.10	2.00		1.90	.85		.75		.75				1.10											10.00
Baton Rouge ‖	do	.06	.36	.10	1.70	T.	.20	.30	.41			.04	.05		2.00	.30	.82	.22	.55	2.20	.06	.05	T.	.06	T.								9.48
Burnside	do	.75	.57	.80		.05	.37	T.	.41	.06	.90	.30	.03	.17	.20	.91	1.33	.03		1.46	.10	.90						.20				.40	9.94
Burrwood	do	.98				.60	.90	.25		.28					1.02					.80	.50												5.33
Cades	do	1.65	T.	T.	1.45		.48	.10	.21		.24	.05		.60	.06	.28		T.	.15	.22	.06	.15											5.70
Calhoun	Ouachita	.05	.24				T.		T.	.15		1.22	.07		.21	T.	.12	.30		.46			.12				.10			.48		.42	3.94
Cameron	Coast				.02		.11	T.	.30		.15		.18		.47					.43	.24											1.04	2.94
Carrollton	do																																
Cheneyville ‖	Red	.52	.35	.09				.25		.70	.15	.05		.07	.40		1.40	.15					2.65										6.78
Cinclare	Coast	.37	.10	.78		.42	.95	.27			.20			.87	.10	1.02	.15		.90	.02		.15	.05										6.35
Clinton ‖	do	.20	1.48	.02		.10	.25	.05	.12	.75	.09	.20		.10	.17	.20	.12	.13	.06	.38	.07	.02		.08				.13					4.72
Collinston	Ouachita	T.					.50			.90	.10	.65	.10				.32		.30	.96	.18						.60			.30		.23	5.14
Columbia	Red																																
Covington ‖	Coast			.75		2.06	.05	.70	.27	.04	.84	2.08	1.66				.70	.10	T.		4.05	.04		12									11.46
Dodson	Red	.34	.19						.61				1.58	.15			.16				.57	.11		.08						.09		.18	4.06
Donaldsonville ‖	Coast	.20	1.78	.70	.20	T.	1.35	.18	1.20	.68	.05	1.03			.10	.25	.83				.83	.10	.80	.95			T.						11.23
Dutchtown	do	1.45	.42			.75	.25	.15		T.	1.18	.08		T.	T.	.05	1.46	.10	.50	.12	.20	.25	.08				.60						7.64
Farmerville ‖	Ouachita					T.	T.		T.	.07	.25	1.12		.12	T.	.17	.20	.27	.33	.32	T.		.52				.08			1.00	.20	.40	5.05
Ferriday	do	.10	.50			.25						.40		.48	.90	.35		.90	.30	.60			.98									.15	5.91
Franklin ‖	Coast	1.25	.28	.01	.68	.13	T.	1.03	.14	T.	1.11	2.66	.03	.05	.92	.89	.48			2.05	.05	.14	.25										12.75
Franklinton	Pearl	T.	2.20	.50	.30	.10	.20	.20	.30	.10	.30		T.	T.	.70	.87	.39	.35	2.10	.90	T.	.68	T.										9.78
Grand Cane ‖	Red	1.18	.03													.21		.96			.73											6.08
Grand Coteau	Coast	T.	.03	.15		.50	.35		1.25		1.10		T.	.02		.92	1.97	1..	.52		T.	.75	.15										5.74
Gueydan	do																																
Hammond	do	.30	.15	1.45		2.30	.50	.10	.10	.25	1.05					.75	.40	T.				.55	.05										7.95
Houma	do	.10	.80			.05	.10	.40	.40	.05	1.35		.05	1.10	1.20				.05	.10	.75	.74											7.24
Jena	Red	.07					.67		.55			42				.60	.15			1.33	.42		.07				.15						5.23
Jennings ‖	Coast	.39	.07			.95		.56			1.90	.42		.36		.05	.16	.66	.87	1.15	.06	.08	.09										7.77
Laark	Red	1.05										.32				.70			.50	.10	.03		1.35							1.65		.12	5.82
Lafayette ‖	Coast	.30	T.	.40	.60	.30		.10		.07	1.06	.10	.28	.19		.03	1.07		3.44			.23										8.17
Lake Charles ‖	do	1.89						.61		.90	.15	.33					1.06	.50	.30	1.33		.21									.28		6.84
Lakeside	do						.52	.10	.43	.73	.44			.44		.14		.07	.05	.37													3.29
La Rose (near)	do																																
Lawrence ‖	do		.50	.30		.50	.10	.10	1.50	.10	.60	.50	.20	1.10	.60		.10	2.20	.50	.10	.40	.10	.80										10.30
Leesville	Sabine																																
Liberty Hill ‖	Red	.25	.50						.29	.05		2.78	T.		T.	.08				.08	.26	T.			1.17		.27						5.44
Logansport	Sabine								.05	1.04	.32						.12				.11												1.64
Melville ‖	Red	.14	1.50	.45	.05		T.	.05	.45			.25			T.	.48	.18	.21	1.10	.35	T.	T.	.20	T.										5.45
Merryville	Sabine																																
Minden ‖	Red							.02		.58	.48	.05				T.	T.	.04	.10	.02	.21								.30		.67		2.47
Monroe ‖	Ouachita	.01	.17	.01	.01		T.				.12	T.	.42	T.	T.	.22	.13		1.10	.72	.20		.02	.82					.42		.03	.01	4.89
Morgan City ‖	Coast	.04	1.36						.38	.13	.33	1.83		.10	.87		.46		.53				1.08										7.11
Newellton	Mississippi																																
New Iberia	Coast	.25	T.	T.	T.	T.	.50	.25	.45	.65	.70	.20	.15	.67	.45	1.30	.0	1.00	.30	.05	T.	.20											7.15
New Orleans (1)	do	.57	.13	.01	.18	.29	.15	T.	1.17	1.20	.60	.01	.72	.06	.04	.01	T.	T.	.88	.57	.04	.75					T.						7.38
New Orleans (2)	do	.51		.06	.02		.28		1.03	1.19	1.63			.02	.11	.41	10		.18	2.70	.10	2.00		.02									10.36
New Orleans (3)	do	.22	.09	.06	.13	.26		.02	.82	.64	.40		.10	.01	.06	.02	.02			1.66	.32	.35											5.18
New Orleans (5)	do	.76	.56	.15		.25	.01		1.42	1.38	.60			.07	.12	.47				1.56	.21	1.55											9.12
New Orleans (6)	do	.83	.07		.15	.23	.06		1.27	1.31	.54		.77	.02		.17	.12		1.22	.70	.35	.44											8.28
New Orleans (7)	do	.10	1.90	.09		.25	.01		.77	.68	1.95	.17	.30	.02	.01	.42		.07		1.09		.10											7.99
New Orleans (8)	do	.56	.01	.70	.04	.23	.19		1.70	.86			.29				.13	.27	.44	.45	.01	.58											6.46
Opelousas ‖	do		.12				.33	T.	.93	1.71	1.33	.53		.71	.63	.51	.57	.11	.58	.05	T.		.71										8.82
Paradis	do	.90				.23	.70								.28	.55	.65			1.84		.37											5.52
Pearl River	do		1.30	T.	T.	.32	.54		.46	T.	.38	.54				.28	.20	.32	.02	.00	T.		.56	.04									5.02
Plain Dealing	Red							.10		.10						.10				.55												.28	1.13
Rayne ‖	Coast	.50			T.	.50	.10	.50		.10		.40	T.	.80	T.		1.00			.30		.10	.20	T.									5.10
Reserve	do		1.07	.34			2.07			.79	.45	.62				1.63	.04		.41	.08	1.28		.34										9.12
Richland Plantation	Red	1.00	.88	.37				.07			.67	.28	.14	T.	.25	.02	1.12	.02		.22	.02	.25	.16						.10		.02		5.59
Robeline ‖	do		.30							.10			.80							1.00	.20										1.00		3.40
Ruston	Ouachita																																
St. Francisville ‖	Mississippi																																
Schriever ‖	Coast	T.	.11					T.	.88	T.	T.	1.49	.19	1.00	.58	.50	.06	T.	1.54	.87	T.	T.	.42	T.									8.24
Shreveport	Red		T.				.01	T.		.57					T.	.03	.18		.06	.44										T.		2.44	3.73
Simmesport ‖	do	.05		.10				.12	.05	.50	T.	.05	.04	.02	.33	.28	1.67	.03		.13	.03	.06	.15	.04									3.65
Southern University Farm.	Coast	.10			.20	.35	T.	.11	.26	1.00	.56		T.	.05	.10	.10	.12		.90	1.00		1.15											6.00
Sugartown	do	.32					.90				.61		1.22	.62		.36					.71												4.74
Tallulah ‖	Mississippi	.03	.11		.04		.26					1.32					1.01	.31		.69			.25										4.02
Walker	Coast	1.00	.24		.22	1.22	.68	.01	1.17		.60		1.10	.32	2.80	.96	.90		.55			.15											11.92
Winnsboro	Red																																

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1912. District No. 7, Lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.										Oklahoma.			
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.§§		Dodge City.		Ellinwood.		Iola.		Liberal.		Wichita.		Ardmore.		Bartlesville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	92	60	59	33	81	58	89	55	81	46	95	63	81	67	86	66	86	66	85	62	91	65	85	65	87	68	90	65
2....	96	55	65	34	88	54	87	57	77	46	93	68	89	72	93	64	97	64	85	65	96	69	89	69	94	72	90	70
3....	95	69	62	37	91	54	88	60	82	47	90	67	91	73	90	64	95	64	90	69	91	63	93	70	95	74	94	74
4....	89	60	49	31	82	58	79	53	74	46	91	67	91	70	85	65	93	71	90	73	87	67	91	74	94	72	94	72
5....	91	51	57	34	77	48	88	51	78	40	84	61	88	71	80	63	84	65	90	68	83	59	88	65	94	73	95	70
6....	93	66	70	30	85	52	86	56	84	44	92	62	95	68	88	60	91	57	89	67	90	57	85	64	95	67	91	65
7....	102	64	70	41	95	56	92	61	86	47	95	62	92	67	94	66	94	67	91	65	98	67	90	68	101	73	96	67
8....	104	64	70	39	96	58	98	60	86	45	96	68	94	70	96	72	98	71	94	73	100	69	94	72	99	73	98	72
9....	97	63	70	40	87	54	98	66	89	45	96	69	94	71	97	69	102	72	94	73	99	66	96	74	100	74	98	72
10....	91	56	72	38	89	60	99	65	84	53	95	69	94	71	90	66	91	69	89	72	94	66	91	74	103	72	101	72
11....	101	63	70	40	95	57	94	63	86	49	95	66	96	70	98	65	102	69	90	67	101	68	98	69	104	72	100	70
12....	100	61	64	41	93	65	98	65	87	48	97	70	99	70	100	73	105	75	94	75	102	69	99	75	103	73	100	73
13....	99	65	72	37	93	59	99	62	85	55	95	66	97	71	96	66	100	72	97	75	100	65	97	76	101	74	103	73
14....	100	55	67	48	92	60	95	67	88	52	96	68	97	73	97	69	102	85	95	74	100	67	96	75	101	74	101	73
15....	67	56	69	43	66	58	85	60	73	58	88	70	98	74	76	60	91	72	85	71	94	65	82	69	105	74	94	74
16....	88	56	71	35	85	58	89	60	83	53	92	60	97	72	84	58	90	71	84	67	91	58	88	65	98	72	94	70
17....	89	60	75	38	86	60	99	69	83	51	87	64	95	71	86	67	92	61	90	67	88	67	90	69	97	71	91	75
18....	96	60	74	42	81	62	86	62	81	52	84	62	92	73	83	66	86	63	88	63	89	61	88	69	98	74	91	70
19....	91	70	62	43	91	60	90	62	85	52	85	62	87	73	87	63	92	51	90	63	88	60	87	66	99	73	94	68
20....	95	61	69	43	86	64	94	63	85	51	94	67	91	75	94	69	98	68	93	70	100	67	92	72	99	72	97	71
21....	95	60	72	43	90	67	93	61	84	57	87	67	89	71	91	67	86	67	94	76	92	68	93	69	101	75	102	76
22....	95	61	71	45	88	62	89	66	81	56	90	66	95	73	93	70	97	71	94	75	94	59	94	73	100	75	100	78
23....	101	72	68	45	88	68	92	67	83	52	94	67	94	73	94	72	98	73	96	75	96	70	96	75	102	75	100	75
24....	95	65	64	40	86	65	90	61	84	55	96	70	99	74	99	68	105	73	100	74	100	62	101	75	103	77	104	73
25....	91	65	66	42	89	58	96	67	84	53	95	71	99	73	95	71	94	71	86	72	97	69	96	76	104	75	103	75
26....	95	63	66	42	88	59	98	66	83	52	91	65	102	73	96	70	100	70	85	73	98	66	96	76	106	73	101	75
27....	94	61	55	42	84	56	96	65	79	46	92	64	101	73	93	67	100	67	98	70	94	62	97	73	104	74	105	75
28....	93	60	69	36	84	55	99	66	82	52	97	68	102	75	95	69	99	69	86	72	98	68	92	72	106	73	105	77
29....	93	60	66	40	87	64	98	67	83	58	95	66	108	75	93	69	97	69	93	68	96	67	94	73	110	74	97	73
30....	87	66	67	41	84	58	97	61	86	55	99	66	101	75	82	66	90	65	95	62	86	67	92	70	97	74	98	68
31....	80	63	64	41	79	61	93	60	79	58	91	64	99	72	80	66	84	60	86	63	85	66	84	68	102	73	91	68
Mns..	93.4	61.6	66.6	39.5	86.6	59.0	92.7	62.1	82.7	50.8	92.5	66.0	95.1	71.9	90.7	66.6	94.8	68.0	90.8	69.6	94.1	65.1	92.1	71.0	100.1	73.1	97.4	72.0

Date.	Oklahoma—Continued.														Missouri.													
	Enid.§§		McAlester.		Mangum.		Muskogee.		Oklahoma.		Weatherford.§§		Woodward.		Caruthersville.		Ironton.§§		Lamar.§§		Olden.		Springfield.		Blandville, Ky.		Jackson, Tenn.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	65	85	67	93	68	83	66	82	63	89	68	90	66	79	66	79	62	86	63	76	65	79	63	77	67	80	67
2....	91	66	92	71	90	68	87	71	87	73	90	69	93	70	82	69	79	65	85	65	77	64	75	65	78	67	84	68
3....	93	73	93	75	93	72	91	80	87	73	93	71	93	69	90	66	89	65	90	70	85	63	85	69	85	69	90	70
4....	91	72	92	72	94	69	89	71	88	71	93	73	91	74	91	72	90	66	90	72	89	67	88	69	86	69	94	.....
5....	91	72	93	73	91	68	91	70	88	63	94	66	83	63	97	72	93	64	92	63	91	78	87	67	81	70	92	68
6....	93	60	92	65	91	61	91	66	86	65	89	61	90	57	80	70	90	68	88	67	89	69	85	68	80	69	84	70
7....	94	60	96	68	94	66	93	69	90	69	95	65	95	66	86	70	88	67	92	67	89	67	88	68	81	70	.....	.....
8....	96	64	96	73	95	67	92	72	91	71	96	68	97	71	92	72	91	64	93	71	87	63	87	67	86	70	91	68
9....	97	72	96	73	95	68	95	76	91	74	96	71	98	72	92	71	91	67	94	72	88	69	90	71	87	70	90	67
10....	98	70	99	72	99	70	97	72	95	75	103	70	98	67	92	73	90	71	95	73	90	72	90	66	85	71	91	70
11....	99	72	98	65	101	71	90	64	95	74	99	68	101	71	92	69	90	62	92	66	87	64	87	64	83	69	89	69
12....	100	71	98	72	101	70	95	71	96	73	100	72	103	76	93	76	89	64	93	69	88	66	88	72	86	69	93	71
13....	101	70	98	73	101	70	96	75	96	74	102	72	102	70	96	72	92	69	95	75	89	69	91	71	89	73	94	70
14....	100	72	98	74	99	71	94	72	94	74	100	73	102	75	98	72	94	70	95	73	91	72	90	72	90	72	96	72
15....	93	74	99	74	99	72	99	76	94	75	92	69	93	68	99	75	96	66	92	72	91	71	90	73	93	73	96	72
16....	97	69	96	72	99	71	95	70	91	70	94	69	94	60	96	76	88	70	92	66	91	59	85	69	88	73	93	71
17....	91	73	94	71	96	71	91	71	85	72	90	70	89	65	93	76	91	71	90	70	88	67	85	70	87	73	88	71
18....	93	71	94	72	94	69	92	71	90	72	91	70	90	66	90	75	89	66	88	67	87	67	84	67	86	72	87	70
19....	96	67	95	70	95	68	94	80	91	69	97	65	92	61	90	70	83	60	89	63	85	64	84	64	81	67	90	69
20....	100	70	96	74	101	70	90	75	95	72	100	69	97	68	89	72	89	59	90	71	86	65	85	69	86	67	90	72
21....	103	74	98	75	96	73	99	75	96	75	102	75	97	71	94	75	92	75	93	73	89	74	90	73	90	74	94	74
22....	102	75	100	75	100	73	97	74	96	77	100	72	96	73	99	76	89	69	97	73	92	72	88	72	90	72	98	72
23....	100	74	99	76	100	70	99	73	97	74	100	72	97	73	98	76	93	70	95	73	92	63	90	75	91	76	96	73
24....	106	73	102	75	102	69	101	74	100	75	105	75	106	75	98	76	94	74	99	75	91	61	96	75	92	76	95	74
25....	106	71	104	77	103	70	102	73	101	73	107	73	104	69	100	78	89	74	90	74	94	65	88	72	89	77	95	77
26....	106	69	106	76	102	69	103	74	99	75	105	74	102	75	94	70	87	62	86	72	93	67	85	70	83	68	91	65
27....	105	69	105	74	103	71	101	74	99	75	104	73	99	66	93	65	87	57	98	68	87	62	86	68	84	64	89	69
28....	105	75	106	78	106	72	105	75	102	74	107	75	102	70	97	64	93	60	95	73	93	67	93	70	89	64	95	61
29....	100	70	109	80	105	69	99	76	98	76	100	70	100	70	96	71	89	68	94	69	89	68	90	70	89	72	95	69
30....	93	73	100	75	98	71	98	72	90	74	85	71	86	67	91	66	88	58	98	63	87	64	91	66	85	64	94	61
31....	90	67	96	70	96	70	89	68	88	68	87	66	87	67	90	71	84	62	89	63	86	64	81	67	84	70	91	66
Mns..	97.4	70.1	97.6	72.8	97.8	69.8	94.8	72.4	92.8	72.2	96.9	70.2	95.7	68.7	92.5	71.5	89.2	66.0	92.0	69.4	88.3	66.7	87.1	69.1	85.8	70.2	91.5[a]	69.5[b]

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 7*—Continued.

Date.	Tennessee—Continued.				Arkansas.																Mississippi.					
	Kenton.		Memphis.		Bentonville.		Corning.		Dardanelle.§§		El Dorado.§§		Fort Smith.		Little Rock.		Pine Bluffs.§§		Texarkana.§§		Wynne.§§		Clarksdale.§§		Corinth.§§		Greenville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	78	63	80	69	81	62	80	68	83	64	86	70	83	67	83	68	83	68	87	62	84	63	82	70	82	65	85	70
2	79	68	79	71	85	67	79	69	88	67	92	71	90	70	87	71	89	71	92	69	84	71	86	71	82	68	91	71
3	91	66	85	71	87	72	88	65	90	69	89	72	92	74	86	71	83	69	91	72	80	62	89	69	90	68	90	71
4	.....	.....	89	74	88	69	90	72	93	69	91	71	94	72	91	72	91	70	91	72	94	72	93	72	92	70	94	73
5	.....	.....	89	74	89	64	90	72	92	68	94	72	94	71	93	73	95	70	94	72	90	71	93	72	90	70	95	73
6	83	67	82	69	87	68	88	70	93	68	94	73	92	69	88	74	90	71	96	77	87	74	86	72	82	68	92	70
7	.....	.....	89	73	90	66	89	72	89	69	92	70	92	72	91	71	92	69	94	70	89	71	91	71	86	69	94	71
8	90	67	90	73	90	68	90	69	89	68	93	73	94	72	91	69	92	71	95	68	91	71	91	70	88	68	93	71
9	87	69	88	72	91	68	91	73	93	70	92	71	95	73	91	74	93	70	95	71	90	73	90	73	90	68	93	73
10	87	71	87	69	93	70	90	73	93	73	94	70	97	74	90	72	93	71	97	71	93	74	91	73	90	70	93	72
11	87	68	85	69	91	67	88	67	92	69	93	70	93	73	90	69	95	71	99	70	90	75	81	69	90	72	91	73
12	89	69	89	72	92	70	89	71	93	68	91	67	97	73	88	69	93	67	96	68	91	69	92	65	92	70	92	70
13	90	70	90	76	93	71	91	73	93	70	92	69	97	74	91	72	94	71	95	70	95	73	94	68	96	70	96	72
14	92	71	93	76	92	71	93	73	94	72	95	73	97	75	92	75	96	72	96	72	95	73	95	72	96	72	97	73
15	94	72	93	77	92	70	93	74	94	71	93	74	94	76	93	76	95	73	98	74	96	73	95	70	96	72	98	73
16	92	72	91	76	91	67	93	72	91	73	94	70	94	74	91	76	94	71	96	72	93	74	92	70	92	70	96	73
17	89	72	88	74	88	66	89	73	92	70	94	73	93	71	89	70	95	73	97	72	93	71	94	75	84	72	96	75
18	85	72	84	74	86	66	88	71	90	69	92	73	92	72	89	73	91	72	97	70	90	72	87	73	87	72	91	76
19	87	69	87	74	88	64	85	69	89	71	83	74	90	72	87	74	90	73	88	70	90	73	90	73	89	70	92	74
20	87	69	89	75	87	69	87	68	86	74	90	75	89	75	88	74	91	73	90	74	93	78	90	74	88	72	94	74
21	91	75	90	76	92	73	91	76	91	72	94	73	95	76	92	74	94	72	96	71	95	75	95	74	92	72	[a] 94	74
22	93	73	91	77	94	73	93	72	95	73	93	73	98	76	94	76	95	73	95	73	97	74	94	74	94	74	95	74
23	98	.....	91	78	91	72	93	75	94	72	93	72	96	76	92	76	93	73	96	72	97	75	93	75	96	74	95	75
24	.....	74	92	79	95	72	93	76	97	72	95	75	97	75	94	75	94	74	97	73	98	70	94	75	95	76	97	77
25	94	76	94	78	94	73	93	77	98	71	97	72	99	75	99	76	99	75	100	71	98	70	97	74	98	76	99	76
26	86	66	88	74	90	72	89	68	94	73	99	76	99	77	96	80	97	76	102	71	93	74	94	73	90	68	98	80
27	.....	60	85	69	96	70	86	62	94	71	94	74	96	75	91	72	93	72	100	70	90	63	90	65	87	64	93	70
28	92	.....	92	71	98	71	92	63	95	74	96	66	101	76	96	71	96	65	101	71	95	72	94	64	92	62	95	67
29	.....	.....	90	70	95	68	91	72	100	76	98	71	97	76	94	77	97	74	100	74	93	73	91	68	92	68	87	70
30	88	62	89	74	94	63	90	65	96	71	95	70	99	71	96	71	97	73	101	74	94	67	95	72	95	66	97	70
31	84	67	84	75	86	63	88	70	90	69	85	72	90	70	87	71	85	73	93	70	88	71	87	76	90	70	90	74
Mns.	88.5[f]	69.2[f]	88.2	73.5	90.6	68.5	89.4	70.6	92.3	70.5	92.7	71.8	94.4	73.3	91.0	73.0	92.7	71.5	95.6	71.2	91.8	71.5	91.2	71.4	90.4	69.9	93.6	72.7

Date.	Mississippi—Continued.						Louisiana.																			
	Kosciusko.§§		Natchez.§§		Vicksburg.		Alexandria.§§		Baton Rouge.§§		Covington.§§		Lafayette.§§		Lake Charles.§§		Monroe.§§		New Orleans.		Robeline.§§		Schriever.§§		Shreveport.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	67	87	71	85	69	90	70	96	70	87	71	87	70	91	64	90	70	79	70	90	65	89	69	90	72
2	84	69	88	65	87	70	90	70	89	65	91	68	89	71	91	67	94	70	87	71	95	70	93	69	93	72
3	89	70	90	72	87	71	95	73	90	69	91	70	95	72	92	68	95	73	88	74	96	72	92	72	90	73
4	92	70	91	67	90	72	95	72	91	70	92	71	94	71	93	68	101	72	87	74	95	70	93	70	90	72
5	92	70	91	68	87	71	96	72	92	72	92	71	95	71	96	68	94	73	87	73	96	76	95	70	92	73
6	88	69	92	69	90	69	96	73	90	71	90	70	93	71	97	69	95	71	86	73	96	70	90	70	95	75
7	91	69	91	68	91	70	94	63	91	67	90	71	93	70	91	65	96	70	87	75	95	68	91	70	91	72
8	90	69	90	65	89	70	92	70	87	69	81	71	93	72	89	69	93	70	84	72	95	69	89	71	94	74
9	83	70	89	70	80	71	86	69*	89	66	80	71	94	71	85	67	97	72	83	72	88	70	90	73	92	72
10	91	71	90	70	91	71	88	70	90	68	87	70	87	72	82	68	99	72	86	73	95	71	87	71	93	71
11	92	69	92	68	86	69	95	70	91	69	91	71	94	72	97	66	98	71	85	73	98	70	89	67	94	72
12	92	67	88	68	87	69	95	69	93	72	91	71	89	72	91	66	94	68	85	73	93	62	91	69	92	69
13	94	69	89	74	91	73	90	70	94	72	90	72	90	73	97	69	98	69	88	75	93	68	92	71	92	73
14	94	71	89	71	90	72	95	72	92	74	91	73	89	72	95	71	94	72	83	75	97	70	91	70	94	74
15	93	70	92	73	91	70	90	74	88	72	95	72	96	73	96	70	100	74	89	74	92	73	91	70	94	74
16	90	70	93	70	90	70	95	73	94	70	92	73	95	72	90	67	96	70	89	75	94	71	93	76	93	70
17	90	70	92	76	89	74	97	73	95	72	92	73	91	72	94	68	96	71	90	77	92	72	95	75	92	73
18	76	70	91	72	87	74	92	73	94	73	93	73	91	73	98	68	99	71	89	76	96	71	93	73	92	75
19	89	72	86	71	86	74	86	72	92	72	87	73	85	73	88	67	95	73	86	73	90	72	90	74	79	74
20	90	72	91	72	90	72	90	72	93	73	93	73	91	73	92	69	94	73	92	75	91	72	95	72	91	73
21	92	71	94	71	92	74	94	72	92	72	89	73	90	74	95	69	100	72	81	76	95	70	96	74	93	73
22	90	73	90	72	89	75	90	73	91	74	91	76	91	73	92	72	97	73	90	77	90	74	93	74	91	76
23	90	74	92	72	89	74	93	70	92	72	93	72	92	72	93	69	99	72	91	77	98	70	97	71	94	75
24	92	72	92	71	89	76	97	72	95	73	95	73	92	73	94	69	101	73	91	77	97	72	97	72	94	75
25	96	73	93	70	92	76	97	74	95	74	96	74	95	73	99	70	100	74	93	76	99	72	96	72	97	75
26	94	75	96	72	94	79	98	74	97	73	99	75	95	74	101	72	101	75	95	78	101	72	98	72	98	77
27	88	65	96	70	90	74	98	74	95	72	97	73	95	74	87	74	98	72	93	80	99	72	99	74	97	75
28	92	65	91	66	91	71	96	72	92	68	96	70	94	72	100	72	100	68	91	77	99	71	96	72	97	75
29	91	66	91	68	91	73	98	70	96	69	97	70	94	70	102	69	98	69	95	80	102	69	98	73	98	74
30	95	68	92	70	93	74	98	69	97	74	99	72	98	73	98	68	101	68	95	80	100	67	99	74	96	73
31	91	72	95	72	86	73	92	72	95	73	95	74	95	77	98	73	84	69	93	81	95	69	97	76	89	68
Mns.	90.2	69.9	91.1	70.1	89.0	72.3	93.5	71.4	92.5	71.0	91.7	71.9	92.3	72.3	93.7	68.7	96.9	71.3	88.3	75.2	95.2	70.3	93.4	71.8	92.8	73.2

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL SUMMARY.

July was a dry and warm month, with a large percentage of sunshine and few rainy days. The monthly mean temperatures were well above the normal, except along the Texas coast and in the northwestern portion of the district, where they averaged slightly below. The extremes of temperature were marked and the daily range was large, especially during the warmer periods. At some of the stations the warmest days of the month and the coolest nights occurred on the same dates. The precipitation was decidedly deficient, except over a limited area in southeast Texas covering the two lower tiers of counties from the Brazos Valley to the eastern boundary of the State. Slight excesses occurred also locally in the middle Rio Grande watershed due to heavy thundershowers, and at one or two stations in the Rio Pecos watershed. Several cloudbursts were reported from New Mexico. At Pecos, N. Mex., a farmer was drowned by a wall of water rushing down an arroyo, and at the Hondo irrigation project the lower dam was swept out, causing a loss of about $10,000. The deficiency of precipitation was most marked in the southern and central portions of Texas and, so far as this State is concerned, the current month was, with but one exception, the driest July in the last 25 years.

The greatest and least monthly amounts of precipitation were: In Colorado, 3.58 inches at Wagon Wheel Gap Experiment Station and 0.65 inch at Garnett; in New Mexico, 5.03 inches at Placitas and 0.15 inch at Alamogordo; and in Texas, 7.06 inches at Houston, while at 13 stations there was no precipitation and at 3 others a trace only. Excessive amounts of 2.50 inches or more in 24 consecutive hours occurred at 3 stations in Texas, the heaviest being 3.45 inches at Stowell on the 19th. Light snow was reported from 2 stations in Colorado.

TEMPERATURE.

The monthly mean temperature was 0.7° below the normal in Colorado, 0.4° below in New Mexico, and 1.7° above in Texas. The first week was unusually cool in the northwestern portion of the district, and frost occurred at some of the mountain stations on the 4th and 5th. The highest day temperatures occurred from the 28th to 31st. The changes in temperature from day to day were comparatively slight and as a rule the nights were cool. The average daily range of temperature varied from about 8° on the upper Texas coast to about 36° in the western portion of the district.

The highest and lowest temperatures reported were: In Colorado, 87° at Saguache on the 9th and at San Luis on the 11th and 21st, and 24° at Hermit on the 5th; in New Mexico, 106° at Lake Valley and at Rio Grande Dam on the 10th, and 27° at Senorito on the 5th and 6th; and in Texas, 113° at Graham on the 29th, and 55° at Boerne on the 7th. The local monthly means ranged from 51.4° to 62.6° in Colorado, from 56.8° to 81.0° in New Mexico, and from 75.0° to 89.2° in Texas.

PRECIPITATION.

The precipitation over the Rio Grande watershed averaged 1.91 inches which is 0.44 inch less than the normal. There was a marked deficiency over the Texas portion of this watershed, while over the New Mexico portion the average amount approximated the normal. The precipitation was very unequally distributed, especially in New Mexico where a number of stations had heavy local rains that flooded arroyos and caused considerable damage.

The Rio Pecos watershed received an average of 1.76 inches of precipitation, which is 1.01 inches less than the normal. The only station reporting more than the normal amount was Clouderoft, N. Mex., which received 4.07 inches.

Decided shortages of precipitation occurred throughout the Texas watersheds, the deficiencies ranging from 1.24 inches for the Sabine drainage basin to 2.98 inches for that of the Nueces. A few stations near the upper Texas coast reported heavy local rains, while there was very little or no precipitation in the lower coast counties and in a large number of interior localities. At the close of the month droughty conditions existed over nearly the entire State of Texas. The following are the average monthly amounts in inches and hundredths for the various watersheds: Nueces, 0.39; San Antonio, 1.00; Guadalupe, 0.58; Lavaca, 1.25; Colorado, 0.83; Brazos, 1.06; Trinity, 1.19; Neches, 2.20; Sabine, 1.58; and coastal plains, 1.66.

RIVER CONDITIONS.

There was ample water for irrigation and other purposes in the Rio Grande and Rio Pecos during the month, but the Texas streams were at low water mark, except the Trinity, which had a good flow during the early part of the month from the heavy rains in June. Irrigating plants had to suspend operations, and the question of impounding the waters of the lower Colorado received serious consideration from interested parties.

TABLE 1.—*Climatological data for July, 1912. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Blanca	Costilla	7,865	3								2.48		0.78	0	8	6	22	3	sw.	Dr. L. C. Audrain.
Cumbres	Conejos	10,015	5																	
Garnett	Costilla	7,576	19	62.6	+0.8	84	9†	34	4	48	0.65	−0.55	0.23	0	5	6	25	0	sw.	Chas. Speiser.
Hermit	Hinsdale	9,843	5	51.4	.....	78	31	24	5	43	2.56	.....	0.51	T.	12	12	8	11	.....	Marion Mason.
La Veta Pass	Costilla	9,000	2								1.98	.....	1.51	0	4	11[b]	16[b]	2[b]	w.	Clara M. Wright.
Manassa	Conejos	7,700	6	62.2	.....	85[b]	11	31[b]	5	46[b]	0.82	.....	0.32	0	7[b]	3[b]	17[b]	9[b]	sw.	J. B. Chapman.
Platoro	....do	7,675	5								2.31	.....	0.48	0	17	9	13	9	sw.	Walter R. Hook.
Saguache	Saguache	7,740	20	62.2	−2.2	87	9	32	11†	53	1.27	−0.31	0.50	0	4	3	4	24	w.	Eugene Williams.
San Luis	Costilla	7,794	21	62.2	−0.6	87	11†	32	5	47	0.96	−1.44	0.61	0	6	8	23	0	sw.	P. S. Albright.
Wagon Wheel Gap Experiment Station.	Mineral	9,235	1	54.2	−0.8	73	9	31	5	36	3.58	+1.56	0.77	T.	20	5	14	12	ne.	U. S. Weather Bureau.
New Mexico.																				
Agricultural College	Dona Ana	3,863	51	79.7	−1.1	100	8†	51	5	44	0.48	−1.34	0.16	0	9	8	22	1	sw.	N. Mex. Agricultural College.
Alamogordo (near)	Otero	4,338	15	78.8	−0.7	102	10†	50	5	47	0.22	−1.48	0.06	0	6	10	15	6	sw.	Edward Le Breton.
Alamogordo	....do	4,320	3					46	5		0.15	.....	0.12	0	3					Agent E. P. & S. W. R. R.
Alamos Ranch	Sandoval	7,800	2								1.46	.....	0.25	0	10	28	1	2	sw.	H. H. Brook.
Albuquerque	Bernalillo	5,000	36					52	5		2.39	+1.16	0.83	0	8	19	12	0	e.	Pitt Ross, C. E.
Ancho	Lincoln	6,112	3								2.08	.....	1.48	0	5					Agent E. P. & S. W. R. R.
Anchor Mine	Taos	10,600	1								5.00	.....	1.00	0	16	3	24	4	w.	Charles H. Brigham.
Artesia	Eddy	3,350	4	80.2	.....	104	30	52	6	48	1.97	.....	1.05	0	5	28	2	1	se.	Will Benson, C. E.
Aspen Grove Ranch	Rio Arriba	9,000	3								3.35	.....	0.81	0	9	8	23	0	.....	Junius D. Maupin.
Banks	Roosevelt																			Aaron Hawkins.
Bateman's Ranch	Rio Arriba	8,900	3								3.55	.....	1.03	0	7	8	20	3	w.	John W. Bateman.
Berino	Dona Ana	3,788	1								0.89	.....	0.44	0	4	23	8	0	.....	J. C. Rishaberger.
Bluewater	Valencia	6,732	10	64.8	.....	92	11	31	5	55	1.14	.....	0.34	0	8	7	20	4	sw.	Bluewater Development Co.
Boaz	Chaves	4,154	3	79.7	.....	103	9	58	1†	42	0.64	.....	0.29	0	4	14	17	0	s.	D. C. Savage.
Capitan	Lincoln	6,348	3								2.90	.....	1.22	0	5	14	2	15	e.	Agent E. P. & S. W. R. R.
Carlsbad	Eddy	3,120	17	81.0	+0.8	103	30	60	28	41	0.93	−2.26	0.48	0	5	20	9	2	se.	U. S. Reclamation Service.
Carrizozo	Lincoln	5,429	4	75.5	.....	98	10†	52	6	39	1.38	.....	0.35	0	7	14	12	5	e.	Agent E. P. & S. W. R. R.
Cerrilos (near)	Santa Fe	5,700									2.37	.....	0.54	0	9	5	25	1	sw.	Irving C. Sweet.
Chama	Rio Arriba	7,851	14	61.6	−3.2	85	10	31	5	44	2.10	−0.46	0.80	0	7	14	17	0	sw.	Frank C. Johnson.
Cloudcroft	Otero	8,650	10	60.2	+1.4	76	11†	45	6	25	4.07	+0.49	0.83	0	17	19	8	4	.....	Agent E. P. & S. W. R. R.
Corona	Lincoln	6,666	3	68.9	.....	90	9	44	6	41	1.97	.....	0.49	0	9	7	22	2	sw.	Do.
Coyote	....do	5,800	3								0.69	.....	0.30	0	5	22	6	3	sw.	Do.
Cundiyo	Santa Fe	6,889	3								0.97	.....	0.46	0	4	18	8	5	w.	Juan Vijil.
Demonstration Farm	San Miguel	6,800	3								1.43	.....	0.73	0	6					Erb & Westerman.
Duran	Torrance	6,272	3	72.2	.....	94	10†	48	5	40	2.60	.....	0.80	0	8	7	22	2	.....	Agent E. P. & S. W. R. R.
Escondido	Otero	4,014	3			103	7†	54	6		0.68	.....	0.31	0	7	18	8	5	se.	Do.
Espanola	Rio Arriba	5,590	14	70.9	−1.0	93	10†	42	5	46	1.73	+0.12	1.45	0	6	13	15	3	sw.	Mrs. E. F. McBride.
Estancia	Torrance	6,140	7																	George H. Van Stone.
Fort Stanton	Lincoln	6,231	35	68.2	−0.9	92	12	42	6	46	2.63	−0.36	0.62	0	11	20	8	3	sw.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	4			100	29†							0						Peter Yocky.
Gallinas	Lincoln	6,635	3								1.52	.....	0.74	0	3	23	5	3	w.	Agent E. P. & S. W. R. R.
Gallinas Plg. Station	San Miguel	7,500	5	62.8	.....	85	9†	36	5	41	2.32	.....	0.46	0	14	11	20	0	w.	U. S. Forest Service.
Glorieta Ranch	Socorro	5,700	2								1.16	.....	0.56	0	5	12	17	2	s.	Chas. M. Crossman.
Harvey's Upper Ranch	San Miguel	9,400	3	59.1	.....	78	9†	38	5†	34	3.05	.....	0.60	0	17	21	10	0	e.	R. B. Schoonmaker.
Hondo Reservoir	Chaves	3,904	3	78.8	.....	100	8	54	9	41	2.55	.....	0.95	0	9	20	8	3	s.	U. S. Reclamation Service.
Jemez Springs	Sandoval	6,100	2	69.1	.....	91	12	40	5	41	3.53	.....	0.75	0	11	12	11	8	sw.	Linus L. Shields.
Knowles (near)	Eddy	4,300	2	79.0	.....	101	30	57	27	39	1.12	.....	0.46	0	6	15	14	2	se.	J. W. Mosley.
Laguna	Valencia	5,840	7	73.8	.....	101	10	46	5†	49	3.30	.....	2.00	0	5				w.	Gus Weiss.
Lagunita	Guadalupe	4,500	7																	P. A. Turnbull.
Lake Valley	Sierra	5,412	7			106	10				1.75	.....	0.45	0	9	8	22	1	sw.	William P. Keil.
Lakewood (near)	Eddy	3,170	1								0.86	.....	0.35	0	6	25	5	1	se.	Mrs. J. K. Boyd.
Las Vegas	San Miguel	6,385	25	66.8	−2.2	89	9	42	5	42	3.19	−0.76	0.82	0	12	23	8	0	sw.	N. Mex. Normal University.
Liston	Chaves	5,000	2								1.07	.....	0.45	0	3	7	23	1	s.	H. G. Liston.
Los Lunas (near)	Valencia	4,900	23	74.4	−2.6	99	9†	44	5	51	0.97	−0.16	0.33	0	6	7	24	0	.....	Richard Pohl.
Magdalena	Socorro	6,557	7	70.4	.....	90	7†	45	4	37	3.55	.....	1.10	0	14	13	18	0	w.	Wm. Pender.
Mescalero	Otero	6,627	1	66.2	.....	87	15	42	5	39	2.29	.....	0.67	0	14	15	10	6	sw.	Rev. R. H. Harper.
Mineral Hill	San Miguel	7,050	7								1.69	.....	0.47	0	7	0	31	0	sw.	W. M. Nelson.
Monterey	Otero	4,436	3								0.57	.....	0.25	0	7	11	20	0	sw.	Agent E. P. & S. W. R. R.
Mountainair	Torrance	6,547	10	70.0	+ 0.3	98	10	43	6	49	4.15	+ 1.75	1.81	0	10	7	21	3	sw.	Miss Julia Hill.
Newman	Otero	3,989	3			105	8				1.32	.....	0.76	0	4	12	3	16	.....	Agent E. P. & S. W. R. R.
Noria	Dona Ana	4,114	3								1.62	.....	0.85	0	5	18	2	11	w.	Do.
Orogrande	Otero	4,171	3								0.98	.....	0.28	0	8	5	26	0	w.	Do.
Oscura	Lincoln	5,016	3								0.57	.....	0.28	0	7					Eugene F. Jones.
Otis	Eddy	3,100	3								1.31	.....	1.02	0	3	24	7	0	se.	A. M. Hove.
Otto	Santa Fe	6,200	3								3.25	.....	1.31	0	10					Otto Goetz.
Pastura	Guadalupe	5,285	3								1.53	.....	1.03	0	4	19	8	4	sw.	Agent E. P. & S. W. R. R.
Placitas (near)	Bernalillo	8,000	1	62.7	.....	83	10	38	5	32	5.03	.....	1.30	0	13	11	20	0	w.	George C. Ellis.
Plainview	Chaves	4,300	1	80.9	.....	103	30†	56	10	41	0.53	.....	0.23	0	5	22	9	0	se.	L. P. Adair.
Red River Canyon	Taos	8,956	5	63.0	.....	86	14†	41	1	40	3.40	.....	1.00	0	8	14	17	0	e.	Mrs. L. R. Penn.
Rincon	Dona Ana	4,030	18	79.4	+ 0.2	104	10	50	6	47	2.26	+ 0.11	0.95	0	5	4	23	4	s.	Charles H. Raitt.
Rio Grande Dam	Sierra	4,265	22	80.8	+ 2.4	106	10	57	6	41	2.51	+ 0.37	1.25	0	5	16	12	3	sw.	U. S. Reclamation Service.
Rio Grande Industrial School.	Bernalillo	5,000	1	73.8	.....	98	10	45	2	45	1.19	.....	0.46	0	5	13	15	3	sw.	Rev. A. C. Heyman.
Rosedale	Socorro	6,910	7	67.4	.....	90	10	51	2†	33	3.52	.....	0.75	0	10	12	17	2	w.	Mrs. J. J. McInness.
Roswell	Chaves	3,578	18	78.8	− 0.1	99	9	56	6	38	1.94	− 1.52	1.71	0	5	19	11	1	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	15	78.6	+ 1.2	101	11	50	6	45	2.14	+ 0.43	0.61	0	6	16	12	3	se.	Agent A. T. & S. F. R. R.
San Rafael	Valencia	6,509	15	71.3	.....	103	7	40	5	60	1.57	− 0.59	0.37	0	8	18	6	7	se.	Dr. Chas. M. Grover.
Santa Fe	Santa Fe	7,013	39	68.2	− 0.5	87	10	50	5	30	1.49	− 1.22	0.59	0	13	8	21	2	se.	Section Center.
Santa Fe Canyon	....do	8,000	2								3.74	.....	1.05	0	10	10	21	0	e.	Mrs. E. M. Gregory.
Santa Rosa	Guadalupe	4,624	11	76.8	.....	102	9	51	5†	43	2.38	− 0.28	1.98	0	5	9	11	11	s.	H. V. B. Smith, C. E.
Senorito (near)	Sandoval	7,500						27	5†		2.20	.....	0.69	0	16	7	22	2	w.	James Curry.
Socorro	Socorro	4,660	20	78.1	+ 0.6	104	9†	49	8	48	0.75	− 0.92	0.32	0	6	29	1	1	se.	J. J. Leeson.
South Fork	Taos	8,405									2.47	.....	0.40	0	10	18	2	11	se.	Frank Hamm, jr.
Stanley	Santa Fe	6,317	3	67.8	.....	94	10	39	5†	50	1.51	.....	0.97	0	7	7	24	0	s.	George R. Camp.
Strauss	Dona Ana	4,080	13								1.56	− 0.08	0.94	0	6	6	17	8	e.	Agent S. P. R. R.
Tajique (near)	Torrance	9,820	2								4.76	.....	0.95	0	12	9	14	8	.....	A. Rea.
Taos	Taos	6,983	17	67.8	− 0.9	91	30	38	5	42	0.90	− 0.86	0.29	0	10	16	15	0	w.	Alexander Gusdorf.
Taos Canyon	....do	8,959	3								3.30	.....	0.84	0	13				.....	L. Martinez, jr.
Tecolote	Lincoln	6,539	3	68.6	.....	91	9	49	4†	34	0.95	.....	0.48	0	2	12	11	8	s.	Agent E. P. & S. W. R. R.
Three Rivers	Otero	4,559	3			99	12				0.97	.....	0.47	0	8	11	14	6	sw.	Do.
Tijeras Canyon	Bernalillo	6,214	2								2.45	.....	1.10	0	11	12	15	4	w.	U. S. Forest Service.

TABLE 1.—*Climatological data for July, 1912. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New Mexico—Contd.																				
Torrance	Torrance	6,433	3								2.36		1.20	0	3	13	18	0	sw.	Agent E. P. & S. W. R. R.
Tres Piedras	Taos	8,076	9	63.2*		85*	12	32*	5	42*	1.79	− 1.00	0.62	0	6	15	6	10	sw.	U. S. Forest Service.
Truchas	Rio Arriba	7,935	3	64.6		85	20	42	16	33	1.34		0.45	0	9	5	25	1	w.	Miss Ruth Rendon.
Tularosa	Otero	4,436	3																	Irby L. Fairless.
Vaughn	Guadalupe	5,952	3			98	8				2.10		0.60	0	6	20	6	5	sw.	Agent E. P. & S. W. R. R.
Virsylvia	Taos	7,500	2	69.8		88	31	49	25	27	2.91		1.21	0	12	19	12	0	sw.	Dr. I. N. Woodman.
Winsors	San Miguel	8,200	16	56.8	− 1.8	87	10	32	5†	52	1.70	− 2.71	0.50	0	6	9	21	1	s.	James F. Matty.
Texas.																				
Abilene	Taylor	1,738	27	85.4	+ 3.2	106	30	69	6	27	0.30	− 2.10	0.26	0	2	17	9	5	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	18	84.4	+ 1.1	108	29†	58	9	36	2.62	− 0.93	0.89	0	4	26	4	1		N. L. Bartholomew.
Alice	Jim Wells	209	1	84.3		103	30	65	1	32	0.77		0.72	0	2	24	5	2	se.	R. M. Boerum.
Alpine	Brewster	4,482	2								0.42		0.42	0	1	19	8	4	se.	Geo. W. Page.
Alvin	Brazoria	49	14	83.3		100	30	70	1†	28	6.15	− 0.78	3.15	0	3	5	24	2	s.	Alvin Japanese Nursery.
Anahuac	Chambers	23	3								6.30		2.30	0	8					Lone Star Canal Co.
Antelope	Jack		1								1.38		0.54	0	4	25	5	1		Paul Rudolph.
Aspermont	Stonewall		1								2.69		1.25	0	4	24	2	5	sw.	Bryant Link Co.
Austin	Travis	593	56	85.6	+ 1.9	104	30	71	20	26	0.22	− 2.18	0.08	0	5	22	8	1	se.	A. Deussen.
Ballinger	Runnels	1,637	16	86.2	+ 4.1	110	30	68	12†	41	0.25	− 2.79	0.25	0	1	23	4	4	s.	E. M. Eubank.
Barstow	Ward	2,573	5	85.6		109	31	62	5	40	1.92		1.20	0	3	21	5	5	e.	Lee F. Freeman.
Bay City	Matagorda	53	2	82.1		98	29	72	1†	23	1.28		0.38	0	7	22	5	4	s.	E. C. Quereau.
Beaumont	Jefferson	29	11	82.2	− 0.7	99	27	68	1†	26	6.15	+ 1.19	0.97	0	14	7	0	24	se.	John Bender.
Beeville	Bee	225	16	84.2	+ 0.4	103	30	69	4†	30	0.15	− 2.69	0.11	0	2	19	12	0	se.	L. E. Dickey.
Big Springs	Howard	2,396	14	85.8	+ 3.2	109	30	68	17	33	1.25	− 1.74	0.43	0	5	21	8	2	se.	B. Reagan.
Blanco	Blanco	1,350	16	85.2	+ 3.5	106	29†	69	18	34	1.06	− 2.47	0.44	0	3	19	11	1	s.	R. C. Crist.
Boerne	Kendall	1,412	20	81.3	+ 0.6	107	29	55	7	43	0.92	− 2.75	0.43	0	5	21	9	1		F. W. Schweppe.
Booth	Fort Bend	81	11								1.33	− 3.70	0.66	0	10	28	0	3	sw.	T. R. Booth.
Bowie	Montague	1,113	17	86.2	+ 2.9	110	29	66	6	32	1.46	− 0.93	0.70	0	4	20	11	0	se.	Craig Anderson.
Brady	McCullough	1,500	11																	J. W. Griffin.
Brazoria	Brazoria	25	23	82.0	+ 0.5	102	29	70	7†	27*	2.14	− 3.17	1.35	0	10	29	2	0	s.	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	3								1.18		0.81	0	2	17	14	0	sw.	Robt. E. Boyett.
Brenham	Washington	350	27	85.1	+ 1.8	103	29	71	6	25	0.72	− 2.39	0.32	0	4	23	6	2	se.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	3								0.20		0.11	0	3	24	6	1	s.	Claude Strange.
Brighton	Nueces	12	19	84.4	+ 1.5	99	3	70	29†	25	0.00	− 1.29	0.00	0	0	30	1	0	se.	G. H. Ritter.
Brownsville	Cameron	38	48	82.3	− 1.5	96	30	71	1†	25	0.13	− 1.75	0.10	0	3				s.	U. S. Weather Bureau.
Brownwood	Brown	1,342	20	85.1	+ 1.7	111	30	66	12†	45	0.55	− 1.55	0.30	0	2	21	10	0	s.	Mrs. Pearl Smith.
Buena Vista	Pecos										0.22		0.22	0	1					W. H. Denis.
Cameron	Milam		4	87.3		108	29	70	4	31	0.72		0.28	0	4	24	7	0	se.	J. E. Watts.
Carmona	Polk	330	4	83.0		103	29	61	12	33	1.35		0.70	0	5	10	21	0	s.	M. S. Spitler.
Carrizo Springs	Dimmit			83.3		105	29	62	18	35	0.25		0.20	0	2	21	5	5	se.	M. E. Cook.
Claytonville	Fisher	2,100	17			102	31				0.04	− 3.64	0.04	0	1	19	2	10	se.	Wm. Lanius.
Clifton	Bosque	671	1								1.60		1.21	0	5	11	20	0	s.	R. M. Jones.
Coleman	Coleman	1,710	18	85.9	+ 4.9	108	30†	69	4	31	1.05	− 2.09	0.95	0	2	10	20	1	s.	J. E. Stevens.
Collegeport	Matagorda			82.9		96	25	66	23	23										H. A. Clapp.
College Station	Brazos	308	22	84.9	+ 1.5	105	29	68	1†	31	2.98	+ 0.29	1.85	0	5	15	12	4	s.	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	18	85.7	+ 3.1	112	30	64	29	43	1.08	− 2.08	0.61	0	3	28	3	0	s.	R. M. Webb.
Columbia	Brazoria	34	23																	R. B. Loggins.
Columbus	Colorado	206	8								1.44		0.90	0	5	24	4	3	s.	Mrs. Sophie Bridge.
Corpus Christi	Nueces	20	25	82.0	− 0.7	91	30	74	16	17	0.11	− 1.55	0.10	0	2	16	15	0	se.	U. S. Weather Bureau.
Corsicana	Navarro	445	23	86.0	+ 2.6	105	29	72	5†	28	0.24	− 2.41	0.24	0	1	23	5	3	s.	D. H. Winn.
Cotulla	La Salle	425	5								0.30		0.30	0	1					Holland Agricultural Co.
Crockett	Houston	350	8	85.2		108	29	69	4†	32	3.32		1.58	0	9	20	11	0	s.	A. M. Rencher.
Cuero	De Witt	177	22	86.0	+ 1.2	105	29	69	29	36	0.32	− 2.35	0.20	0	2	26	0	5	s.	H. R. Frobese.
Dallas	Dallas	466	23	85.7	+ 1.8	108	29	62	5	33	1.59	− 1.81	0.99	0	4	22	0	9	s.	G. A. Eisenlohr.
Danevang	Wharton	145	16	84.8	+ 1.6	105	29	70	1†	31	1.15	− 3.75	1.10	0	2	26	3	2	se.	H. P. Hermansen.
Del Rio	Valverde	952	6	86.1	+ 1.4	106	31	72	1	31	0.10	− 2.12	0.09	0	2	18	13	0	se.	U. S. Weather Bureau.
Devine	Medina	653	2	87.0		107	30†	70	22†	36	0.55		0.50	0	2	28	2	1	se.	M. A. Keller.
Dialville	Cherokee	575	8	85.0		105	29	67	16	29	0.45		0.45	0	1	15	15	1	s.	J. M. B. McKnight.
Dilley	Frio	569	2								0.00		0.00	0	0					John W. Miller.
Dublin	Erath	1,466	16	86.2	+ 4.4	111	29	67	5	39	0.00	− 2.64	0.00	0	0	13	17	1	s.	Jno. O. Shafer.
Duval	Travis	820	23	84.6	+ 0.2	105	30	70	11	30	0.19	− 2.45	0.19	0	1	28	2	1	se.	J. C. Edgar.
Eagle Pass	Maverick	800	35	87.5	− 0.3	106	30†	67	26	34	2.70	+ 0.94	2.70	0	1	17	14	0	se.	Charles Tarver.
Eastland	Eastland	1,420	5	84.4		109	29†	61	20	42	T.		T.	0	0	14	16	1	s.	Wm. D. Cook.
Edna	Jackson	71	3								0.30		0.20	0	2					E. L. Faires.
El Paso	El Paso	3,762	33	81.0	+ 0.5	100	10	61	6	35	1.11	− 1.02	0.29	0	11	12	19	0	se.	U. S. Weather Bureau.
Encinal	La Salle	558	4	84.8		104	29†	70	16†	34	0.00		0.00	0	0	19	11	1	se.	Walter Pettit.
Eola	Concho		1																	E. W. Neal.
Fairland	Burnet	1,000	23	85.6	+ 2.9	109	30†	67	11†	38	2.13	+ 0.24	2.11	0	2	27	4	0	s.	R. L. Bush.
Falfurrias	Brooks		4	84.9		105	30	65	30	40	T.		T.	0	0	30	1	0	se.	W. A. Gardner.
Flatonia	Fayette	465	4	84.4		104	29	68	1†	30	1.08		0.71	0	5	17	8	6	s.	Fred W. Laux.
Flint	Smith	483	2	84.5		107	29	69	11	31	1.50		1.10	0	3	21	8	2	sw.	F. C. C. Carter.
Fort Clark	Kinney	1,050	41	83.0	− 1.1	102	30†	61	3	30	0.25	− 1.71	0.25	0	1	29	2	0	se.	Post Hospital.
Fort Davis	Jeff Davis	5,000	33								3.10	− 0.34	0.90	0	7					T. J. Dumble.
Fort McIntosh	Webb	460	44	87.9	+ 0.8	108	30†	67	16	34	0.00	− 1.94	0.00	0	0	16	10	5	e.	Post Hospital.
Fort Stockton	Pecos	3,050	15	83.1	+ 2.2	107	31	65	1†	36	0.62	− 1.63	0.24	0	3	0	30	1	se.	H. H. Butz.
Fort Worth	Tarrant	670	17	85.8	+ 2.1	109	29	71	18	29	0.27	− 2.77	0.10	0	4	18	9	4	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	23	83.7	+ 2.8	104	30	66	28	36	1.19	− 1.27	0.53	0	3	23	5	3	s.	Arthur Striegler.
Gainesville	Cooke	738	22	86.3	+ 4.5	108	29	69	6	34	0.50	− 3.94	0.50	0	1					J. L. Hickson.
Galveston	Galveston	69	41	83.2	+ 0.2	93	27	75	13	15	0.16	− 3.82	0.12	0	3	19	12	0	s.	U. S. Weather Bureau.
Gatesville	Coryell	795	8	85.0		107	30	71	4†	34	1.75		1.75	0	1					John Ryan.
Georgetown	Williamson	750	17	85.4	+ 2.2	108	30	69	5	34	0.70	− 2.29	0.53	0	4	28	3	0	s.	Prof. R. F. Young.
Gonzales	Gonzales	299	7								0.82		0.37	0	4	22	5	4	s.	J. M. Johnson.
Gorham	McLennan	444	3					67	10		0.25		0.15	0	2	15	10	6	s.	John Gorham.
Graham	Young	1,040	13	89.2	+ 4.9	113	29	64	7	34	0.82	− 1.99	0.62	0	2	23	8	0	s.	C. W. Johnson.
Grand Falls	Ward		2								1.00		1.00	0	1	13	11	7		W. A. White.
Grand Saline	Van Zandt	399	2								0.30		0.20	0	2	19	12	0	s.	Jas. Kirk.
Grapevine	Tarrant	670	22	86.8d	+ 3.8	112	28	72	4†	38	0.34	− 2.99	0.34	0	1	13d	13d	1d	s.	W. J. Crowley.
Greenville	Hunt	550	12	87.0	+ 3.3	111	29	66	1	33	3.62	− 0.60	2.25	0	3	19	2	10	s.	Mrs. L. A. Regan.
Hallettsville	Lavaca	235	20	85.8	+ 1.8	102	30	70	12	28	2.20	− 0.78	1.10	0	3	23	5	3	s.	Dr. J. E. Lay.
Hamlin	Jones	1,685	1								0.87		0.65	0	3					W. S. Carruthers.
Harlingen	Cameron	37	1	84.8		102	30	70	18	31	0.00		0.00	0	0	27	4	0	se.	Lindsay Waters.
Harper	Gillespie		1								0.32		0.16	0	3	17	0	14		Christian Fritz.
Haskell	Haskell	1,553	17	85.8	+ 1.2	106	30	63	1	32	0.94	− 1.81	0.60	0	3	21	8	2	s.	P. D. Sanders.
Hebbronville	Duval		5																	Henry Edds.
Hempstead	Waller	254	8								0.60		0.27	0	3	16	0	15	s.	J. H. Hancock.

TABLE 1.—*Climatological data for July, 1912. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Continued.																				
Henderson	Rusk	500	3								2.38		1.30	0	6	20	8	3		M. Kangerga.
Hewitt	McLennan	664	17								0.77	− 2.59	0.68	0	2					I. H. Earle.
Hico	Hamilton		1								1.49		1.38	0	3	24	3	4	sw.	John A. Eakins.
Hillsboro	Hill	628	9	83.9		102	29†	60	5	38	0.39		0.26	0	2					W. G. Escott.
Hondo	Medina	901	13	85.8		105	30	70	28	32	0.35	− 2.98	0.20	0	2	22	7	2	se.	H. E. Haass.
Houston	Harris	138	22	83.6	+ 0.6	100	29	72	18	26	7.06	+ 3.18	2.28	0	12	12	15	4	s.	U. S. Weather Bureau.
Huntsville	Walker	400	28	84.2	+ 0.8	101	29	71	1†	23	2.22	− 0.69	0.64	0	6	28	0	3	se.	W. Y. Barr.
Jayton	Kent		2								0.00		0.00	0	0	26	0	5	s.	Wichita Valley Ry. Co.
Jewett	Leon	496	8	86.6		112	29	69	5†	34	1.15		1.15	0	1	19	5	7	s.	Earle Adkisson.
Junction	Kimble	1,645	11	84.0		109	31	62	17	38	0.17	− 3.21	0.17	0	1	29	1	1	s.	Judge John S. Durst.
Kaufman	Kaufman	448	13	87.6	+ 3.6	110	29	70	1	31	0.45	− 3.84	0.45	0	1	22	9	0	s.	B. J. Hubbard.
Kerrville	Kerr	1,650	16	82.8	+ 2.7	104	29†	64	29	40	0.37	− 3.39	0.22	0	2	22	9	0	s.	Robert E. Horne.
Killeen	Bell							67	7		1.36		0.79	0	2	19	6	6	s.	J. E. Root, jr.
Knickerbocker	Tom Green	2,050	8	86.0		108	30	63	1	38	0.37		0.32	0	2	16	13	2	se.	Jos. Tweedy.
Kopperl	Bosque	576	15								T.	− 2.76	T.	0	0	18	6	7	s.	T. A. Johnson.
Lagrange	Fayette	276	2								1.49		0.94	0	5	19	5	7	se.	August Hermes.
Lamesa	Dawson	2,500	2								1.02		0.54	0	3					S. D. Austin.
Lampasas	Lampasas	1,026	20	85.8	+ 3.2	106	30	68	1	31	0.85	− 1.01	0.85	0	1	27	3	1	s.	Mrs. K. I. Webber.
La Parra	Willacy	38	10								0.00	− 2.68	0.00	0	0					Jno. G. Kenedy.
Laureles Ranch	Nueces	20	12																	Matt Cody.
Liberty	Liberty	38	8	82.0		101	29	69	4†	26	3.90		0.78	0	11	20	10	1	s.	Mrs. Fannie Sneed.
Llano	Llano	1,040	21	87.0	+ 1.7	107	30	72	28	32	0.60	− 1.14	0.28	0	3	25	6	0	se.	E. W. Torrence.
Llano Grande	Hidalgo	86	4	81.5		102	29†	64	7†	38	0.00		0.00	0	0	31	0	0	se.	M. D. Wardlow.
Long Lake	Anderson	229	7								0.12		0.12	0	1	17	6	8	s.	Geo. W. Ellis.
Longview	Gregg	336	26	86.1	+ 2.4	103	27†	72	1†	27	2.11	− 1.12	1.10	0	6	25	2	4	se.	C. A. Propst.
Lubbock	Lubbock		1								3.35		1.16	0	7	12	14	5	se.	A. L. Paschall.
Lufkin	Angelina	325	5	83.9		104	29†	64	4	32	2.41		0.94	0	6	18	10	3	s.	T. A. King.
Luling	Caldwell	418	23	86.1	+ 2.0	105	30	70	5	30	1.22	− 1.55	0.60	0	4	20	9	2	s.	John Carter.
McGregor	McLennan	713	2								1.57		1.57	0	1	26	3	2	s.	W. H. Whitley.
McKinney	Collin	612	10	84.8		108	29	69	1†	34	1.03	− 2.25	1.03	0	1	14	16	1	sw.	H. Killingsworth.
Marathon	Brewster	4,043	2	75.0		94	30	57	21	33	3.78		1.25	0	7	14	13	4	se.	Rev. A. P. Willis.
Marble Falls	Burnet	771	4								1.18		1.12	0	2					R. H. Cochran.
Marfa	Presidio		4								0.80		0.50	0	3					R. K. Colquitt.
Marshall	Harrison	375	11	83.2		102	29	63	2	30	1.60	− 2.01	0.50	0	6	0	30	1	s.	Lee Scott.
Matagorda	Matagorda	12	2								1.20		1.20	0	1	30	1	0	s.	W. E. McNabb.
Mexia	Limestone	537	8	85.2		109	29	69	1†	36	0.10		0.05	0	3	11	16	4	s.	Miss Josephine Newman.
Midland	Midland		5	84.4		106	30	67	27†	34	0.70		0.42	0	5	21	8	2	se.	J. Harvey Clark.
Mission	Hidalgo	140	2	84.0		101	30	70	1†	31	0.40		0.40	0	1	10	21	0	se.	Chas. M. Kennelly.
Mont Belvieu	Chambers	65	2								3.03		0.92	0	5	19	8	4	sw.	A. R. Shearer.
Mount Blanco	Crosby	2,750	23	81.4	+ 2.8	100	16	62	22†	34	1.96	− 1.43	1.03	0	2	12	10	9	s.	Geo. W. Smith.
Nacogdoches	Nacogdoches	271	13	82.4	+ 1.6	102	29	70	5†	27	0.64	− 4.40	0.40	0	3	18	10	3	s.	Miss Mary Hofmann.
New Braunfels	Comal	720	23	83.9	+ 1.1	102	30	69	1	30	0.77	− 1.92	0.50	0	3	18	11	2	se.	J. Giesecke.
Palestine	Anderson	510	30	83.5	+ 2.0	102	29	69	16	31	0.61	− 2.39	0.24	0	7	24	7	0	s.	U. S. Weather Bureau.
Panter	Hood	1,000	23								0.09	− 2.64	0.09	0	1					E. H. Snider.
Pearsall	Frio	629	2								0.05		0.05	0	1					Earnest De Vilbiss.
Pierce	Wharton	102	6	82.6		102	29	69	1†	29	1.63		0.63	0	7	17	0	14	s.	R. B. Pointer.
Plainview	Hale	3,370	16	79.1	+ 2.3	102	30	61	6	36	3.60	− 0.17	1.59	0	7	17	13	1	se.	J. F. Sander.
Port Arthur	Jefferson		1																	Griffing Bros. Co.
Port Lavaca	Calhoun	20	11	84.4	+ 1.4	99	27	71	11	26	0.51	− 3.76	0.51	0	1	27	4	0	s.	J. H. Bickford.
Post City	Garza	2,700	2																	W. T. Mann.
Putnam	Callahan	1,591	1								1.00		1.00	0	1				se.	S. M. Davis.
Raymondville	Cameron		1								0.29		0.21	0	4	24	6	1	se.	C. H. Pease.
Ricardo	Nueces	57	3	83.0		99	30	67	15	31	0.00		0.00	0	0	15	16	0	se.	P. L. Shaffer.
Riverside	Walker	169	8								2.57		0.95	0	4	26	0	5	s.	Mrs. C. W. Higdon.
Rockland	Tyler	136	8								2.10		0.60	0	5	19	5	7	s.	Mack Dunkin.
Rockport **	Aransas	12	11	81.9	− 1.1	88	19†	74	1	12	0.35	− 1.13	0.30	0	2	27	4	0	se.	Mrs. G. Grewe.
Rossville	Atascosa	558	5	87.0		105	30†	70	30	35	1.18		0.85	0	3	8	23	0	se.	W. F. M. Ross.
Runge	Karnes	308	17								0.94	− 2.19	0.94	0	1					Reiffert & Frobese.
Sabinal	Uvalde	964	8	[illegible].0		105	31	70	28	33	0.79		0.45	0	2	7	21	3	se.	Jas. Johnston.
Salado	Bell		2								0.51		0.40	0	2	17	5	9	s.	L. M. Crockett.
San Angelo	Tom Green	1,847	21	87.6	+ 4.2	110	31	62	12	41	0.28	− 2.35	0.26	0	2	28	3	0	s.	Sam Crowther.
San Antonio	Bexar	701	27	85.1	+ 2.7	104	30	70	18	30	1.27	− 0.95	0.67	0	4	20	11	0	se.	U. S. Weather Bureau.
San Augustine	San Augustine	360	3	83.2		103	29	68	5	30	2.95		0.97	0	11	7	16	8		F. A. Wilson.
San Juanito	Hidalgo		3	86.6		105	30	71	26	31	0.06		0.06	0	1	3	4	24	se.	J. B. McAllen.
San Marcos	Hays	588	19	84.0	+ 1.0	101	29†	67	1	28	0.20	− 3.59	0.20	0	1	20	0	11	e.	Miss L. C. Ford.
San Saba	San Saba	1,712	11	84.8	+ 2.9	107	29	67	28	39	0.18	− 2.58	0.10	0	3	28	0	3	s.	Jas. Burns.
Santa Gertrudes	Nueces		12																	J. B. Wright, jr.
Sealy	Austin	201	1								1.47		1.01	0	5	16	8	7	s.	O. H. Albert.
Seymour	Baylor	1,320	6	86.4		112	29	64	6	39	1.82		1.25	0	2	11	0	20	ne.	S. C. Lee.
Snyder	Scurry		1	82.8		106	30	66	5†	39	1.30		0.72	0	9	16	9	6	se.	J. Allen Weaver.
Somerville	Burleson	251	3	86.0		108	29	68	5	32	0.25		0.25	0	1	26	4	1	s.	Ed. Herbst.
Sonora	Sutton	2,200	8	84.6		108	31	64	16†	43	0.65		0.40	0	2	23	2	6	s.	H. Thiers.
Spur	Dickens	2,300	1	84.0		105	29	66	6†	35	0.53		0.23	0	3	16	14	1	se.	J. D. Reagan.
Stamford	Jones		1	83.6		108	30	64	6	36	1.57		1.27	0	2	28	3	0		H. Pratt.
Stowell	Chambers		1								5.94		3.45	0	4	20	6	5	s.	Arthur Bailey.
Sugarland	Fort Bend	79	11	84.0	+ 1.7	102	29	71	1	27	2.46		0.57	0	8	25	4	2	sw.	Paul C. Rudat.
Sutherland Springs	Wilson	424	2								0.86		0.58	0	2					E. G. Bryan.
Taylor	Williamson	583	11	84.4	+ 1.7	104	30	69	5	29	0.25	− 2.37	0.17	0	4	24	6	1	s.	U. S. Weather Bureau.
Temple	Bell	630	22	86.4	+ 3.7	108	30	71	5	28	0.38	− 2.06	0.30	0	3	26	4	1		W. Goodrich Jones.
Theodore	Winkler		2								0.31		0.15	0	3					W. B. Oates.
Thurber	Erath		2								0.66		0.55	0	3					J. K. Ball.
Tivoli	Refugio		2								0.00		0.00	0	0	0	31	0		W. H. Gisler.
Uvalde	Uvalde	937	17																	F. M. Getzendaner.
Valentine	Jeff Davis	4,421	6	77.2		99	2	56	26	37	3.32		1.20	0	4	18	13	0	se.	Valentine Development Co.
Valley Junction	Robertson	289	12								0.05	− 2.17	0.05	0	1	30	1	0	s.	Frank Fitzpatrick.
Victoria	Victoria	187	13	85.5[d]	+ 2.2	105	29	71	2	26[e]	0.00	− 3.89	0.00	0	0	27	4	0	s.	C. C. Zirjacks.
Waco	McLennan	424	23	88.0	+ 5.0	107	30	72	1	31	0.32	− 2.03	0.32	0	1	24	0	7	s.	E. H. Hall.
Waxahachie	Ellis	556	15	87.1	+ 3.9	110	29	71	8†	35	0.13	− 2.96	0.08	0	2	21	4	6	s.	C. D. Longserre.
Weatherford	Parker	864	23	86.6	+ 3.1	108	29	66	6	28	1.06	− 1.43	0.57	0	4	29	1	1	n.	Miss J. Stickfort.
Wills Point	Van Zandt	524	7	86.8		111	29	63	1	35	0.23		0.23	0	1	29	1	1	s.	W. W. Gibbard.
Winters	Runnels		1								0.00		0.00	0	0					Ed P. Eason.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 8, Texas and Rio Grande Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blanca	Rio Grande					T.					T.		.02		.08	.72			.78		T.		.18	.26			.08	T.		T.		.36	2.48
Cumbres	do															.04			.05				.04	T.	.20			T.		.10			0.65
Garnett	do												.23			.07			.05				.04	T.	.20			T.		.10			0.65
Hermit	do	T.	T.	.23	.05						T.	T.	T.	T.	.15	.10	T.	T.	T.	.10		.35	.20	.30	.27	T.	.15	.15	T.	.51	T.		2.56
La Veta Pass	do															1.51							.08		.32		.07	T.			T.		1.98
Manassa	do	T.	.02								T.			.07	T.	.11	.02		T.				.32		.24	.04				T.			0.82
Platoro	do	T.	.04	.04	.12									.09	.13	.48	.30	.01	T.	.02	.31	.12	.09	.10	.06	T.	T.	.05	.11	.24	T.		2.31
Saguache	do	.17											T.			T.	.35							.25		.50				T.		1.27
San Luis	do		T.									.01	T.	T.	.15		.05						.12	T.	.02		T.				.61	0.96
Wagon Wheel Gap Experiment Sta.	do	.02	.01	.03	.09	T.					T.	T.	.10	T.	.08	.46	.06	.01	.28	.13		.21	.24	.19	.17	.03	.69	.14	T.	.63	.01		3.58
New Mexico.																																	
Agricultural College	Rio Grande	T.	.05								.01					.01		T.			T.	.01		.16	.11	.05			.07	.01			0.48
Alamogordo (near)	do		T.													.04	.06	.02	.01					.05	T.	.04	T.					T.	0.22
Alamogordo	do															T.	.12	T.	T.					.02		.01	T.		T.				0.15
Alamos Ranch	do	.10									T.	T.	.03	.04	.11	T.	T.	T.	.21	T.	.25	T.	.17	.16	T.	T.	T.	.16			T.	.23	1.46
Albuquerque	do		.04												.01	.12					.15	.83	.11	.33		.80	T.			T.			2.39
Ancho	do																1.48	.08		.02		.05	.45										2.08
Anchor Mine	do	.20	.60												.30	.60	.40	.50			.50	.20	.30	.40	.10	.20	.10	.30		.10		.20	5.00
Artesia	Pecos			.25															.20	1.05	.15	.32											1.97
Aspen Grove Ranch	Rio Grande														.81		.56	.04	.22			.59	.30	.21	.20	.42							3.35
Banks	Pecos																																
Bateman's Ranch	Rio Grande	T.		T.								T.	T.	T.	.50	.83		.22				T.	1.03		.36	.40	T.	.21					3.55
Berino	do																			.05		.44		.20					.20		T.		0.89
Bluewater	do											T.	T.			.10	.06	.08		.15	T.		.03	.34	.30	.08							1.14
Boaz	Pecos																			.20	.03	.08			.24								0.64
Capitan	do										.22					1.06							1.22	.10	.30	T.							2.90
Carlsbad	do	T.	.15	.15												.15			*	.48													0.93
Carrizozo	Rio Grande		.03												T.		T.		T.	.15	.17	.35	.30	.20	T.							.18	1.38
Cerrillos (near)	do	T.	.09									T.	.02	T.	.20	.40	.33	T.	T.	T.		.30	.54	T.	.48	.01	T.	T.	T.	T.	T.	T.	T.	2.37
Chama	do		T.	T.										T.	.50		.13	T.		T.		T.	.80	.12	T.	T.		.30	T.	.15		.10	2.10
Cloudcroft	Pecos		.02	.08						.50	.29					.83	.03	.47	.08			.19	.11	.09	.03		.15	.47	.19		.43	.21	4.07
Corona	do	T.									.07				.11	.18	.49	.42				.18		.20		.10	.22						1.97
Coyote	Rio Grande	.11																	.08			.07		.30					.13				0.69
Cundiyo	do															.12					.36	.03	.46										0.97
Demonstration Farm.	Pecos	.20									.08	.03				.73				.08			.31										1.43
Duran	do	.15	T.					T.			T.	T.			T.		.10	.40			T.	.80	.15	.40	T.	.40	T.			T.		.20	2.60
Escondido	Rio Grande		.04	.05												.31			.01			.11	.06		.10							0.68
Espanola	do	.05														.10	1.45					.04	.05	.04								1.73
Estancia	do																																
Fort Stanton	Pecos	T.							T.		.09			T.			.08	.50	.04	.02	.26	.62	.24	.29	.45				.04		T.		2.63
Fort Sumner	do																																
Gallinas	do																.53		.25							.74							1.52
Gallinas Pltg. Sta	do	T.	.19									T.	.05		.08	.46			.05	.12	.30	.02	.07	.18	T.				.13	.33	.06	.28	2.32
Glorieta Ranch	Rio Grande	.30															.13							.56					.11		.06		1.16
Harvey's Upper Ranch.	Pecos	T.	.08										.18		.18	.21	.60	.01	.02	.09	.15	.07	.15	.27	.04	T.		.01	.27	.60		.12	3.05
Hillsboro	Rio Grande																																
Hondo Reservoir	Pecos	.10	T.	.05													.38	.16	.35	.07		.95	.32			.17							2.55
Jemez Springs	Rio Grande	.01	T.												.07		.17	.55			.16		.60	.75			.06		.50	.20		.46	3.53
Knowles (near)	Pecos	T.		.10	T.												T.	.12	T.	.34		.46	.04				.06						1.12
Laguna	Rio Grande														.55	.15							2.00			.35		.25	T.				3.30
Lagunita	Pecos																																
Lake Valley	Rio Grande		T.										T.		.19		.03		T.	.45		.07	.43	.20	T.	.02	T.		.31	.05			1.75
Lakewood	Pecos	T.	.06	.06	T.											.16						.35	.13	.10									0.86
Las Vegas	do		.35								.32	.02	.01		T.	.60	.22				.57	.05	.30		.48		.10					.17	3.19
Liston	do		.32															.45					.30										1.07
Los Lunas (near)	Rio Grande															22							12	.08	.10		.33					.12	0.97
Magdalena	do	.10	.05	T.									.10	.05						20	T.		20		.75	.48	.05	.15	.20	1.10	T.	.07	.05	3.55
Mescalero	do	T.	T.	T.					.02							.04	.02	.18	.28		.23	T.	.06	.34	.05	.08		.15	.13	.67		.12	.15	2.29
Mineral Hill	Pecos		.23									T.				.07							.21	.47					.40	.08			1.69
Monterey	Rio Grande	.04	.01									T.		T.	T.	.01	T.	.03	T.	T.	T.	.10	T.	T.		.13			T.		.25		0.57
Mountainair	do	.02	.03								T.			.05		1.02						1.81	.07	.45		.37			T.	.30	T.	.03	4.15
Newman	do														T.		.10	.26				.76								20			1.32
Noria	do		T.						T.	.14											.30	T.	.85	.18	.15								1.62
Orogrande	do	T.													T.	.15		.13	T.		.10	.18	.05		T.	.25		.05	T.			.07	0.98
Oscura	do	.28													.04				10				.03		.06			.05	.01				0.57
Otis	Pecos	T.	T.	.07	.22											T.	T.	T.	T.	1.02		T.											1.31
Otto	Rio Grande	T.	T.	T.											.89	1.31	.11		.03		*	.80	.07	.02	T.	.01			.01				3.25
Pastura	Pecos																40					.04			.06	1.03						1.53
Placitas (near)	Rio Grande	.04	.07											.22	.04	.54	1.30				.45	.92	.30	.73	T.	.07			.02	.33			5.03
Plainview	Pecos	T.		T.	.01											.15	T.	T.	.13	.23		T.	T.				.01						0.53
Red River Canyon	Rio Grande											T.			T.	.20	1.00	.40		T.		.50	.30			.20				.40	.40		3.40
Rincon	do																.35					.11	.95	.71		.14					T.		2.26
Rio Grande Dam	do	T.														T.		.13	T.				.68	1.02	.61				.07				2.51
Rio Grande Industrial School.	do	.46															.11						.45		.08		.09						1.19
Rosedale	do		T.													T.	.12	.45			.40	.50	.40	.75	.40	T.	.10		.25			.15		3.52
Roswell	Pecos		.01																	.05	.05	.12	1.71										1.94
San Marcial	Rio Grande																.03		.45				.15	.50	.61			.40					2.14
San Rafael	do	T.												.15	T.	.37	T.	.05	T.	.35	T.		.25	.03	.22	.15							1.57
Santa Fe	do		.01	T.									.05	.05	.05	.15		T.	.15	.06	.25	.03	.56	T.	.02		.08	T.	T.	.03	T.	T.	1.49
Santa Fe Canyon	do	T.									T.		T.		.03	.92	T.	.22	.45	.18	1.05	T.	.68	.02	.16	.03	T.	T.	T.				3.74
Santa Rosa	Pecos			.06												*	1.98		.27					.07									2.38
Senorito (near)	Rio Grande	.10										T.		.09	.05	.38	.07	.07			.02	*	.69	.40	.01	.04	.15	T.	.08		.03	.11	2.29
Socorro	do													.04	.03	.32					.07	.24		.05									0.75
South Fork	do			.20										.21	.30		.30	.40				.22		.33	.20	.21	.10						2.47
Stanley	do	.14													T.	.97					.13	.14	T.	.01	.09		T.		.03			T.	1.51
Strauss	do		.08																			.94	.15	.14					.08			.17	1.56
Tajique (near)	do												.44	.24		.95	.26			.04		*	.56	.91		.45			.26		.44	.21	4.76
Taos	do	.05		T.										T.	.13	.12	.04	.08					.29	.05	T.		.05	.05					.04	0.90
Taos Canyon	do	.12													.27	.22	.29	.28	T.		.10	.34	.84	.05	.06	.35	.30						.08	3.30
Tecolote	do	T.	T.															.47						.48									0.95
Three Rivers	do							T.					T.			.05			.05		.03	.47	.06	.03		.21	.07						0.97
Tijeras Canyon	do	.12										T.			.18	.05	1.10				.05	.08	.22	.10	.01	T.		.40		.14			2.45
Torrance	Pecos		T.														.60	.56				T.			T.	1.20							2.36
Tres Piedras	Rio Grande																.62							22				.31	.44		.12	.08	1.79
Truchas	do	.02												T.	.01		.05	.19	T.	T.	T.	T.	T.	.45	.28	.10	.18	T.		T.			.06	1.34
Tularosa	do																																

TABLE 2.—*Daily precipitation for July, 1912. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New Mexico—Con.																																	
Vaughn	Pecos															.40	.60				.30			.25		.30		.25					2.10
Virsylvia	Rio Grande														.37	.30	.19					.07	.15	.01	.02	1.21		.28	.03	.20	.08		2.91
Winsors	Pecos	.10														.30		.10					.40						.30			.50	1.70
Texas.																																	
Abilene	Brazos						T.	.04											.20	T.		T.											0.30
Albany	do					T.	.89												.76	.22	.15												2.02
Alice‖	Coast		.72	.05																													0.77
Alpine	Pecos																		.42														0.42
Alvin	Coast																			.15		2.85	3.15		T.								6.15
Anahuac	do								1.64	.08			.15						.26	.18		2.30	1.58	.11									6.30
Antelope	Trinity					.54					.23			.20																		.41	1.38
Aspermont	Brazos						.90												1.25	.52		.02											2.69
Austin	Colorado																.08	.01	.01	.04	T.											.08	0.22
Ballinger‖	do																			.25													0.25
Barstow	Pecos					1.20																.41		.31									1.92
Bay City	Colorado									.11				.02		.33	.34	.38		.02			.05	.03									1.28
Beaumont‖	Neches		.21					.94	.97		.47	.06					.28	.41	.89	.20		.75		.69	.07				.09		.12		6.15
Beeville‖	Coast	.04																.11															0.15
Big Springs	Colorado					.12											.37	T.	.43			.04					.29	T.					1.25
Blanco‖	Guadalupe																	T.	.37	.44	.25												1.06
Boerne	San Antonio		.23														.15	.07	.43	.04													0.92
Booth‖	Brazos	.12	.07							.04					.05		.04	.03	.04	.66			.10	.18									1.33
Bowie	Trinity	.36				.10					.30							.70													T.		1.46
Brady	Colorado																																
Brazoria	Brazos				T.		.02	T.	1.35					.34			.01	.04		T.	.27	.05		T.	.03	.01					.02		2.14
Brazos‖	do																			.37		.81											1.18
Brenham‖	do			T.			T.		T.	T.							.07	.32	T.			.23		.10	T.	T.							0.72
Bridgeport‖	Trinity	.11					.05									.04																	0.20
Brighton	Coast																																0.00
Brownsville	Rio Grande	.10	.01				.02																										0.13
Brownwood‖	Colorado								T.									T.		.30	.25												0.55
Buena Vista	Pecos				T.	.22																											0.22
Cameron‖	Brazos															T.		.07		.28			.11				.26						0.72
Carmona	Neches	T.			T.				T.	T			.42	.04		T.	T.		.14	.70	.05												1.35
Carrizo Springs	Nueces			T.														.05	.20														0.25
Claytonville	Brazos																			.04													0.04
Clifton	do															.12			.22	1.21	.02											.03	1.60
Coleman	Colorado							T.									.10		.95														1.05
Collegeport	Coast																																
College Station	Brazos		.19															.84	.02	1.85			.08										2.98
Colorado	Colorado					.42												.61								.05							1.08
Columbia	Brazos																																
Columbus‖	Colorado	T.					T.						T.					.64	.26	.40	.10			.04									1.44
Corpus Christi	Coast	T.				T.	.10													.01						T.							0.11
Corsicana ‖	Trinity																				.24												0.24
Cotulla	Nueces																.30																0.30
Crockett	Trinity							.04	.05	.25						1.58	T.		.02	.04	1.25	.01	.08										3.32
Cuero ‖	Guadalupe									.12											.20												0.32
Dallas ‖	Trinity	.99	.02					T.	T.								.07			.51													1.59
Danevang	Coast																			1.10		.05											1.15
Del Rio	Rio Grande						.01													.09							T.						0.10
Devine	Nueces																T.	.05	T.	.50													0.55
Dialville	Neches				T.			T.		T.			T.			T.			T.		.45										T.		0.45
Dilley	Nueces																																0.00
Dublin ‖	Brazos																																0.00
Duval	Colorado																T.			.19			T.								T.		0.19
Eagle Pass	Rio Grande																		T.							2.70							2.70
Eastland ‖	Brazos						T.	T.	T.										T.	T.	T.	T.										T.	T.
Edna	Lavaca						.20							.10																			0.30
El Paso	Rio Grande		.06	T.							.01			T.	.24	.01		T.	T.		.07	.19	.07	.22				T.	.01	.01		.22	1.11
Encinal	Nueces																																0.00
Eola	Colorado																																
Fairland	do															T.			.02	2.11											T.		2.13
Falfurrias	Coast	T.																															T.
Flatonia	Guadalupe	T.	T.			T.											.03		.11	.19	.04		.71										1.08
Flint	Neches									T.		.31				.09				T.	1.10												1.50
Fort Clark ‖	Rio Grande																				.25						T.						0.25
Fort Davis	Pecos												.15		.80	.60		.25			.90					.25			.15				3.10
Fort McIntosh	Rio Grande																																0.00
Fort Stockton	Pecos				.21									T.			T.			.24				.17									0.62
Fort Worth	Trinity	.04					T.	T.								.04		.09	.10		T.												0.27
Fredericksburg	Colorado																	.28		.38												.53	1.19
Gainesville	Trinity																	.50															0.50
Galveston	Coast								.02			T.	T.	.02		T.	T.		T.	T.	.12		T.		T.					T.			0.16
Gatesville	Brazos																			1.75											T.		1.75
Georgetown ‖	do																.10		T.	.53	.04											.03	0.70
Gonzales‖	Guadalupe									.05								.14		.37				.26									0.82
Gorham‖	Brazos																.10				.15												0.25
Graham	do						T.									.20				.62													0.82
Grand Falls	Pecos				1.00														T.	T.				T.									1.00
Grand Saline	Sabine												.20								.10												0.30
Grapevine	Trinity						T.	.34								T.													T.				0.34
Greenville ‖	Sabine	2.25											.52					.85															3.62
Halletsville	Lavaca		T.						T.								.35	T.		.75		T.	1.10										2.20
Hamlin	Brazos					T.													.65	.12	.10												0.87
Harlingen	Coast																																0.00
Harper	Colorado																		.16	.10												.06	0.32
Haskell ‖	Brazos						.04												.30	.60													0.94
Hebbronville	Coast																																
Hempstead ‖	Brazos																T.		.27	T.	T.	.15		.18									0.60
Henderson	Neches							.20					.06			.08				.60			1.30									.14		2.38
Hewitt	Brazos		T.													T.				.68												.09		0.77
Hico	do							.01								.10			1.38			T.											1.49
Hillsboro	do																	.26			.13												0.39
Hondo ‖	Nueces																	T.	.20	.15													0.35
Houston	Coast	.65				.55			.73	.01						.24	2.04	.46	1.74	.44	.10		.09		.01									7.06
Huntsville ‖	Trinity										.48		.62	T.			T.	T.	.20	T.	.15	.13		.64									2.22
Jayton	Brazos																																0.00
Jowett ‖	Trinity																			T.	T.	T.										1.15	1.15

TABLE 2.—*Daily precipitation for July, 1912. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Continued.																																	
Junction	Colorado																			.17													0.17
Kaufman	Trinity															T.				T.	.45												0.45
Kerrville ‖	Guadalupe																			.15	.22												0.37
Kileen	Brazos															.57	T.		.79														1.36
Knickerbocker	Colorado					T.	T.	T.									T.		T.	.32							.05						0.37
Kopperl ‖	Brazos								T.																								T.
Lagrange	Colorado		T.			T.			.06								.34		.10	T.	.94		.05										1.49
Lamesa	do				T.												.54		.20								.28						1.02
Lampasas ‖	Brazos																				.85												0.85
La Parra	Coast																																0.00
Laureles Ranch	do																																
Liberty ‖	Trinity	.20								.31	.15		.42		.12			.53	.13	.07	.42	T.	.77							.78		3.90
Llano	Colorado																	T.	.05	.27	.28										T.	0.60
Llano Grande	Rio Grande																																0.00
Long Lake ‖	Trinity																12																0.12
Longview ‖	Sabine	.06							.04								.82		1.10	.06	.03												2.11
Lubbock	Brazos					.18	.13										1.16	.35	.15	.98		.40											3.35
Lufkin	Neches	.94						T.	T.	.76						.21			.33	.10	T.		.07							T.			2.41
Luling ‖	Guadalupe									.03								.60	.54					.05									1.22
McGregor	Brazos																		1.57														1.57
McKinney	Trinity	1.03																													T.		1.03
Marathon	Rio Grande				T.		1.25				.15			.20					.80	.03		1.05		.30									3.78
Marble Falls ‖	Colorado																T.	T.	T.	1.12	.06												1.18
Marfa	Rio Grande						.20			.50							.10																0.80
Marshall	Sabine									.14						.50		.16		.21	.10			.34					T.			.15	1.60
Matagorda	Coast																				1.20												1.20
Mexia ‖	Brazos													.01			.05			.04		T.										T.	0.10
Midland	Colorado					.06											.05		.42								.04	.13					0.70
Mission ‖	Rio Grande			.40																													0.40
Mont Belvieu	Coast	.14						T.	T.				T.	.92			.20	T.	.85		.92												3.03
Mount Blanco	Brazos																					1.03										.93	1.96
Nacogdoches ‖	Neches	T.	T.							T.	.40			.08			T.	.16		T.	T.												0.64
New Braunfels	Guadalupe																.10		.17	.50													0.77
Palestine	Trinity									.06		T.	.06			.01					.24		.01							.22	.01		0.61
Panter	Brazos						.09																										0.09
Pearsall	Nueces																.05																0.05
Pierce	Colorado	.63								.24									.12	.18	.03	.18		.25									1.63
Plainview	Brazos	.62				.09										.30	.10	1.59				.45						.45		T.	T.		3.00
Port Arthur	Coast																																
Port Lavaca	do						.51						T.																				0.51
Post City	Brazos																																
Putnam	do						1.00																										1.00
Raymondville ‖	Coast	.06						.01	.21										.01														0.29
Ricardo	do																																0.00
Riverside ‖	Trinity	.45									.95		T.						.32	T.	.85												2.57
Rockland ‖	Neches		.50								.30		.20					.50												.60			2.10
Rockport	Coast	.30			.05													T.						T.									0.35
Rossville	Nueces		T.				T.										18			85			15										1.18
Runge	San Antonio																94																0.94
Sabinal	Nueces																	34		45													0.79
Salado	Brazos																11		40														0.51
San Angelo	Colorado							.02									26																0.28
San Antonio	San Antonio		T.														50		65	.02	T.		10										1.27
San Augustine	Neches	T.	.08					19		T.	.07		.64	.18		.97		20	T.	.46	.05	T.								T.	.03	.08	2.95
San Juanito	Coast		.06																														0.06
San Marcos	Guadalupe			.20																													0.20
San Saba	Colorado																03		05	.10													0.18
Santa Gertrudes ‖	Coast																																
Sealy	Brazos									T.							1.01	.09	.07	T.	.02		.28	T.							T.		1.47
Seymour	do						1.25												.57												T.		1.82
Snyder ‖	Colorado					.12	.03	.72											.14	.06	.07		.07					.05	.04				1.30
Somerville	Brazos																						25										0.25
Sonora	Rio Grande																			25							.40						0.65
Spur ‖	Brazos	.15					T.												.15	.23		T.						T.			T.		0.53
Stamford	do																																‡1.57
Stowell	Coast											1.12		.02						3.45											1.35		5.94
Sugarland	Brazos	.03														.33	.23	.30	.48		.23	T.	.29	.57									2.46
Sutherland Springs	San Antonio																			.58			.28										0.86
Taylor	Brazos								T.							T.	.03		.07	.13			T.								.02		0.25
Temple ‖	do																		.30	.02													0.38
Theodore	Pecos				.03													.13						.15								.06	0.31
Thurber	Brazos						.55													.03											.08		0.66
Tivoli	Guadalupe																																0.00
Uvalde	Nueces																																
Valentine	Rio Grande	T.					T.	T.	T.				T.	T.	T.	.48				1.20		.93	T.			T.		.71		T.			3.32
Valley Junction ‖	Brazos																															.05	0.05
Victoria ‖	Guadalupe																																0.00
Waco	Brazos																T.			32													0.32
Waxahachie ‖	Trinity	T.															08	05															0.13
Weatherford ‖	do	.04					.57	.02									T.			43		T.										T.	1.06
Wills Point	Sabine	.23																															0.23
Winters	Colorado																																0.00

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 8. Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.														Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountain-air.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Springs.		Browns-ville.		Corpus Ch[illegible]	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	77	43	74	43	94	67	96	63	82	48	89	45	79	54	91	60	76	51	92	57	93	74	98	69	86	71	85	74
2....	75	39	70	41	96	64	100	70	86	52	88	49	79	51	94	67	77	54	93	54	95	74	96	69	87	75	85	79
3....	77	43	75	46	92	62	99	65	82	56	85	52	78	57	95	64	76	61	89	63	94	75	95	73	88	75	85	78
4....	68	34	65	37	87	66	98	63	79	44	89	50	72	54	93	68	67	51	87	61	95	73	97	73	88	74	85	76
5....	72	35	71	32	90	51	96	62	81	48	87	49	76	53	90	63	74	50	88	51	92	74	94	69	88	74	85	77
6....	80	38	80	37	96	52	99	62	88	42	92	43	83	51	94	56	80	52	94	51	94	69	98	71	89	74	85	78
7....	83	37	81	41	98	63	95	65	88	51	93	54	85	54	97	63	82	60	98	60	96	70	99	72	89	72	86	75
8....	83	38	79	43	100	64	100	65	90	51	94	51	88	55	98	62	85	58	99	63	95	74	99	72	88	72	87	77
9....	84	36	83	40	98	62	100	66	89	51	95	52	85	58	99	65	86	60	102	62	96	74	100	72	88	76	89	78
10....	83	39	84	40	100	60	100	64	90	47	98	51	90	58	97	62	87	58	98	57	97	74	98	72	89	75	86	78
11....	82	40	87	40	98	67	97	64	90	51	97	53	88	60	95	62	85	64	95	60	97	73	100	72	92	72	87	75
12....	82	47	84	50	99	73	101	63	92	53	95	50	85	58	97	65	87	60	99	63	98	73	101	72	91	74	87	77
13....	81	48	84	52	96	71	100	66	90	54	97	52	85	56	97	64	81	60	94	63	98	76	100	74	91	76	87	77
14....	82	53	82	52	93	73	100	64	85	53	80	54	78	56	97	65	81	57	98	62	97	77	103	74	91	76	88	79
15....	78	53	77	52	93	65	98	66	83	54	83	53	80	54	92	68	76	55	88	67	98	77	100	74	91	75	88	76
16....	80	43	81	46	92	68	97	66	84	56	86	50	78	53	93	66	82	55	84	60	97	76	100	70	92	72	86	74
17....	84	45	81	44	94	64	96	66	86	55	85	54	80	56	93	64	78	56	90	62	97	74	99	68	92	71	86	75
18....	83	46	84	44	91	70	90	68	74	57	87	52	78	58	90	66	78	55	86	61	87	70	91	69	92	73	89	77
19....	82	50	80	48	92	70	92	64	83	55	86	53	77	58	87	65	79	59	85	62	91	73	84	69	93	73	88	77
20....	84	54	82	48	96	67	96	65	82	56	90	54	78	56	94	67	83	56	96	63	94	71	99	71	92	75	89	77
21....	80	58	87	46	94	72	94	70	80	57	89	53	77	55	91	67	77	59	89	68	95	77	96	74	91	75	88	79
22....	83	54	79	52	91	66	94	66	78	55	81	51	72	56	88	64	73	52	87	64	96	74	97	81	91	75	88	80
23....	83	55	74	54	84	67	95	67	77	55	83	54	70	55	91	67	77	56	90	64	98	75	100	78	91	75	87	78
24....	78	53	77	45	92	65	98	66	80	54	83	53	75	52	93	66	75	57	93	60	98	75	101	73	92	74	87	78
25....	78	48	77	45	91	66	99	64	83	54	80	52	78	52	94	64	79	58	93	60	98	75	100	77	91	76	86	78
26....	78	45	78	48	92	60	94	61	82	52	85	56	77	54	88	62	76	57	89	56	96	73	96	72	93	74	86	78
27....	72	44	75	41	92	63	98	62	82	50	90	58	78	52	93	60	77	56	94	59	99	75	97	76	92	73	86	77
28....	80	41	81	39	94	68	100	60	84	54	87	50	79	58	96	64	85	55	96	69	101	76	103	76	94	73	87	76
29....	83	40	78	54	94	68	100	62	86	52	83	56	80	55	96	63	81	59	95	59	103	76	104	79	95	73	89	76
30....	83	47	83	52	96	66	103	62	86	51	89	52	80	55	98	61	83	61	98	59	106	81	109	76	96	71	91	74
31....	84	48	78	49	98	66	102	64	86	57	86	51	80	56	96	65	79	61	94	66	101	78	104	79	93	74	89	77
Mns..	80.1	45.0	79.1	45.2	94.0	65.4	97.6	64.5	84.1	52.4	88.3	51.8	79.6	55.2	93.8	64.0	79.4	56.9	92.7	60.8	96.5	74.4	98.6	73.1	90.8	73.8	87.0	77.0

Date.	Texas.																									
	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	94	72	94	70	96	69	99	65	92	73	84	77	96	71	90	72	93	67	90	73	95	62	94	72	95	73	92	71
2....	92	75	97	72	99	71	97	65	94	75	86	79	95	74	91	74	94	68	91	74	92	68	92	74	96	76	93	73
3....	94	76	93	70	100	76	103	70	94	76	85	79	95	74	92	75	95	74	93	75	91	69	95	75	96	77	94	75
4....	94	74	91	70	99	69	101	68	93	72	86	79	95	71	92	73	94	64	91	71	91	70	93	73	97	74	92	71
5....	93	75	91	63	99	71	98	67	93	73	86	79	99	72	91	73	94	69	91	71	90	65	94	73	95	75	93	69
6....	95	75	96	61	98	69	96	65	94	72	87	79	99	72	95	72	95	71	92	73	93	61	96	74	90	64	94	72
7....	97	75	96	72	101	70	98	69	96	74	85	78	98	74	92	75	97	70	95	72	96	63	95	74	97	69	96	73
8....	95	75	97	72	102	75	100	70	94	75	85	78	96	74	88	72	94	71	91	73	96	65	94	74	96	75	94	73
9....	95	76	97	72	100	70	100	68	96	74	86	80	97	74	91	75	94	72	87	73	96	65	96	74	95	71	94	75
10....	96	77	100	68	100	77	98	69	97	75	86	80	99	73	95	75	94	72	93	73	96	63	94	75	99	75	95	72
11....	94	76	96	71	100	70	98	70	100	77	87	78	99	71	94	74	96	72	95	73	96	64	96	73	100	73	96	72
12....	98	74	96	75	104	76	101	69	98	78	87	79	98	70	93	75	95	72	95	74	97	63	95	74	102	75	96	74
13....	97	75	95	72	104	76	96	68	95	77	86	75	98	74	92	75	94	70	93	73	96	64	95	75	100	76	94	74
14....	97	76	94	72	100	77	98	67	96	77	87	81	100	74	93	75	96	70	94	73	96	65	97	75	100	76	96	73
15....	99	77	92	67	100	77	96	69	93	77	89	78	100	73	98	73	97	72	96	71	90	67	98	75	103	75	98	74
16....	101	72	92	68	102	67	96	67	94	71	87	79	97	74	92	73	93	70	92	69	89	65	99	74	97	73	96	76
17....	101	76	92	70	102	72	98	70	94	75	90	78	98	74	92	74	95	73	94	72	91	63	96	72	99	75	97	73
18....	98	77	88	71	100	72	87	67	92	71	90	79	97	74	94	72	95	75	94	75	84	63	97	70	93	71	95	74
19....	96	74	89	70	102	76	89	66	92	74	84	79	95	75	89	73	88	74	90	74	86	67	94	73	94	73	95	70
20....	94	74	94	72	105	77	94	66	95	76	86	75	97	79	89	74	93	72	90	74	94	66	95	76	96	74	93	75
21....	97	76	92	68	105	77	93	74	94	75	88	82	96	75	91	75	95	72	92	74	89	66	96	74	96	78	94	73
22....	97	76	88	66	101	77	93	69	94	77	88	82	95	75	89	77	95	72	91	74	89	65	93	75	99	75	92	73
23....	97	76	86	66	104	72	98	70	95	74	87	81	95	74	92	75	95	73	91	74	92	65	95	73	98	75	95	72
24....	97	75	90	68	101	78	99	69	98	74	88	81	96	74	91	74	96	72	93	72	94	67	96	74	101	78	96	70
25....	93	75	89	69	100	74	99	66	99	76	88	80	98	74	95	74	97	72	95	74	93	67	95	74	104	76	96	73
26....	97	69	89	66	104	76	99	67	100	76	88	77	96	73	95	75	100	73	96	74	91	62	97	73	105	73	98	72
27....	99	78	88	66	105	71	101	65	101	76	93	78	97	74	96	75	102	73	98	76	91	64	98	73	103	73	99	73
28....	99	74	93	68	106	77	100	68	104	75	91	80	100	74	98	76	102	76	99	78	96	66	100	72	104	76	100	73
29....	104	75	91	70	107	76	101	71	109	80	93	79	101	77	100	74	104	75	102	71	100	64	103	73	112	73	103	74
30....	105	74	95	70	108	75	104	68	101	80	89	79	102	76	97	74	104	72	97	77	102	66	104	78	102	72	104	75
31....	106	78	95	73	108	78	107	71	101	76	89	81	101	78	96	76	103	76	99	77	95	68	103	76	100	71	102	74
Mns..	97.1	75.1	92.8	69.3	102.0	73.8	98.0	68.2	96.4	75.2	87.5	79.0	97.6	73.9	93.0	74.2	96.1	71.7	93.5	73.5	93.1	65.1	96.3	73.9	98.8	73.9	95.9	72.9

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
‡‡ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

As in June, stagnant and ill-defined low pressure prevailed throughout the Colorado basin during the greater part of July. While normally this is the prevailing distribution of pressure during the summer months, it is not usual for it to be attended by such low mean temperatures and widespread and copious precipitation as characterized the month. Freezing temperatures occurred during the first decade at a number of stations in western Colorado, and also at one or more points in other parts of the district. The persistency of precipitation was detrimental to haymaking, and injuriously affected the strawberry crop of Routt County, Colo. On the other hand, the waterholes have been filled and a luxuriant growth of grass now covers most of the ranges. Heavy rainfalls occurred in Arizona and New Mexico, but beyond filling the arroyos and temporarily delaying traffic no damage resulted. Wind storms were frequent in the southern half of the district. During the night of the 17th a violent electrical storm occurred in the Salt River Valley, Ariz. The section director reports that in localities the winds reached a velocity never before known in that State, particularly near Mesa and Chandler, where they approached the destructiveness of a tornado, and where two fatalities occurred by the wrecking of buildings. The damage caused by the storm in these localities is estimated at $300,000.

TEMPERATURE.

The mean of the 145 stations reporting was 70.9°, or 3.3° below the normal. The mean for July, 1911, was 72.3°. The highest monthly mean was 90.6° at Sentinel, Ariz., and the lowest 45.7° at Corona, Colo. The first decade was cold; on the 3d, 4th, and 5th the average daily deficiency was generally more than 10°, and as much as 15° or 20° on the 4th in the central part of the district. The second decade was warmer, but not more than two days were warmer than the normal. The last decade was cooler than the normal, especially in central and northern Arizona. The highest temperatures occurred principally on the 10th, 11th, and 17th, while the lowest occurred generally on the 4th and 5th. Thin ice formed in northern Arizona at an altitude of 6,500 feet on these dates and the lowest temperature ever recorded in July occurred in central and northern Arizona.

Details of temperature are summarized in the following table:

Areas of States in district No. 9.	Temperature.					
	Mean.	Departure from normal.	Highest.	Station.	Lowest.	Station.
Western Wyoming	62.4	.....	92	Green River	31	Pinedale.
Western Colorado	62.1	−2.6	101	Rangely	17	Chromo.
Eastern Utah	68.6	−2.9	105	Springdale (near).	24	Strawberry Tunnel (east).
Western New Mexico	70.7	−2.3	105	Cambray	29	Berger's ranch.
Arizona	77.2	−4.0	114	At 3 stations	26	Flagstaff No. 1.
Southeastern Nevada	75.6	.....	113	Logan	40	Caliente.

PRECIPITATION.

The average for the 201 stations reporting was 2.65 inches, or 1.13 inches above the normal. The average for July, 1911, was 3.18 inches. The first 5 days were showery in western Colorado and eastern Utah; the rest of the decade was generally fair. On the 11th well-distributed rains set in over the central and southern parts of the district, and rain fell daily at the majority of stations till the close of the month. Monthly amounts in excess of 4 inches occurred at 8 stations in western Colorado, 6 in western New Mexico, and 28 in Arizona. The greatest monthly amount was 9.16 inches at Lakeside, Ariz., and the least amount, a trace, at Aztec, Ariz.

The average number of days with 0.01 inch or more precipitation was 6 in western Wyoming; 12 in western Colorado; 8 in eastern Utah; 9 in western New Mexico; 9 in Arizona; and 4 in southeastern Nevada. For the district as a whole the average was 9 days.

The average precipitation and departures from the normal on the different watersheds are given in the following table:

Watershed.

Green.		Grand.		San Juan.		Little Colorado.		Gila.		Mimbres.		Colorado proper.	
Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.
1.10	+0.66	2.41	+0.51	2.20	+0.47	3.05	+2.07	3.51	+1.54	3.54	+0.82	1.47	+0.53

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MISCELLANEOUS.

The average amount of sunshine reported was as follows: Grand Junction, 70, −7 per cent; Durango, 79, +2 per cent; Phoenix, 76, −8 per cent; and Yuma, 90, +2 per cent.

The relative humidity was greater than usual. The following are the values: Grand Junction, 44; Durango, 56; Phoenix, 44; and Yuma, 51 per cent.

RIVERS.

In the upper tributaries of the Colorado there was a general fall in the stages. In the Green the fall was regular; but in the Grand a moderate rise began on the 17th, and in the San Juan a similar rise occurred on the 22d. At Topock, on the trunk stream, a sharp rise was in progress at the beginning of the month, the highest stage being reached on the 6th. A steady decline followed until the 28th.

TABLE 1.—*Climatological data for July, 1912. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, with 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Battle Mountain	Carbon	7,300																		
Daniel	Uinta	6,740	13	58.5	+ 2.1	82	26†	31	10	40	1.10	+ 0.32	0.65	0	2	10	20	1	sw.	J. M. Van Dervort.
Eden	Sweetwater	6,577	3	62.5	.....	87a	28	35a	5†	46a	0.72	.....	0.27	0	8a	18a	7a	5a	w.	Eden Valley L. & I. Co.
Green River	....do	6,083	7	66.0	.....	92	29	37	4	45	0.59	.....	0.36	0	3	15	10	6	w.	Geo. H. Maxom.
Pinedale	Fremont	7,167	6	58.8	.....	84	24	31	14	47	1.21	.....	0.65	0	6	.....	.....	.....	nw.	U. S. Forest Service.
Rambler	Carbon	9,232	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Willow Creek Cabin	Fremont	7,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Big Piney	Uinta	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ira Dodge.
Colorado.																				
Ashcroft	Pitkin	9,483	10	53.8	− 1.0	79	10†	30	6	45	2.59	+ 0.59	0.51	0	18	.....	.....	.....	.....	Dan McArthur.
Breckenridge	Summit	9,536	23	52.0	− 1.3	74	11†	28	7	44	.....	.....	.....	0	.....	2	16	13	nw.	Mrs. J. G. Thompson.
Buford	Rio Blanca	.....	1	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.51	0	10	17	9	5	w.	Mrs. H. Genier.
Cascade	San Juan	8,900	5	.....	.....	.....	.....	.....	.....	.....	3.73	.....	0.75	T.	22	11	7	13	.....	San Juan W. & P. Co.
Cedaredge	Delta	6,175	14	67.6	− 2.3	89	17	40	5	37	1.42	+ 0.62	0.47	0	9	11	19	1	.....	Harry A. Cobbet.
Chromo	Archuleta	7,500	6	60.0	.....	86	11	17	8	64	1.40	.....	0.30	0	8	10	15	6	sw.	Lawrence Nolan.
Cochetopa	Saguache	9,088	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bessie McDonough.
Collbran	Mesa	6,000	19	65.9	− 2.6	87	17	39	5	35	2.00	+ 0.84	0.52	0	14	13	15	3	sw.	A. A. Wood.
Columbine	Routt	9,766	2	.....	.....	.....	.....	.....	.....	.....	4.67	.....	1.65	0	13	12	17	2	sw.	Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George W. Wade.
Corona	Grand	11,660	5	45.7	.....	60	17†	26	5	26	4.54	.....	1.08	3.0	9	.....	.....	.....	w.	U. S. Weather Bureau.
Cortez	Montezuma	6,100	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. G. Clucas.
Craig	Moffat	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Joseph F. Haubrich.
Crawford (near)	Montrose	6,600	2	64.8	.....	84	10	38	5	32	2.54	.....	0.73	0	12	18	9	4	.....	C. W. Roe.
Crested Butte	Gunnison	8,867	2	53.2	.....	77	17	32	18†	44	2.84	.....	0.62	0	11	8	4	19	w.	Charles L. Ross.
De Beque	Mesa	4,935	2	72.8k	.....	95k	10	44k	6	46k	.....	.....	.....	0	.....	7k	10k	3k	w.	H. M. Quigley.
Delta	Delta	4,965	22	71.4	− 2.7	100	10	40	5	54	1.09	+ 0.23	0.46	0	7	20	10	1	.....	E. M. Getts.
Dillon	Summit	8,800	2	53.0	.....	75	27†	33	2†	40	5.64	.....	0.80	0	16	3	13	15	n.	Harry T. Hamilton.
Durango	La Plata	6,534	17	65.6	− 3.1	88	11	36	5	43	2.29	+ 0.74	1.71	0	14	8	19	4	nw.	U. S. Weather Bureau.
Eureka	San Juan	10,000	5	.....	.....	.....	.....	.....	.....	.....	1.48	.....	0.20	0	11	9	12	10	s.	San Juan W. & P. Co.
Fraser	Grand	8,560	3	51.0	.....	74	17	27	6†	44	3.79	.....	0.71	T.	15	3	7	21	n.	L. D. C. Gaskill.
Fruita	Mesa	4,510	13	71.8	− 3.3	96	10†	40	5	52	1.23	+ 0.35	0.54	0	6	10	17	4	se.	J. B. Willsea.
Glade Park	....do	7,000	1	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.41	0	12	0	23	8	sw.	A. F. Terrill.
Gladstone	San Juan	10,400	5	.....	.....	.....	.....	.....	.....	.....	3.61	.....	0.42	0	23	0	15	16	sw.	San Juan W. & P. Co.
Glenwood Springs(near)	Garfield	5,823	14	63.0	− 4.6	88	17	36	4	43	2.63	+ 1.38	0.60	0	11	20	6	5	w.	E. A. O'Neil.
Grand Junction	Mesa	4,608	21	74.7	− 4.5	95	17	49	5	38	0.78	+ 0.28	0.30	0	9	10	14	7	se.	U. S. Weather Bureau.
Grandlake	Grand	8,153	4	.....	.....	.....	.....	.....	.....	.....	4.42	.....	1.40	0	10	6	16	9	w.	Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	20	70.3	− 2.4	97	17	41	9	51	0.80	− 0.13	0.32	0	7	5	21	5	.....	David Evans.
Gunnison	Gunnison	7,670	19	61.2	+ 0.1	84	21	31	6	46	1.44	+ 0.10	0.41	0	12	11	16	4	sw.	Clarence Adams.
Hesperus (near)	La Plata	7,610	.....	.....	.....	.....	.....	.....	.....	.....	2.42	.....	0.59	0	11	6	5	20	.....	G. F. Snyder.
Horsefly	Montrose	8,700	2	.....	.....	.....	.....	.....	.....	.....	2.75	.....	0.52	0	14	12	14	5	sw.	Lawrence J. Finch.
Ironton	Ouray	10,000	2	.....	.....	.....	.....	.....	.....	.....	3.83	.....	0.63	T.	14	3	15	13	sw.	Mrs. Amanda E. Foley.
Lake City	Hinsdale	8,686	7	58.6	.....	82	9	32	5	40	2.45	.....	0.63	0	20	5	17	9	s.	J. F. Maurer.
Lay	Moffat	6,190	18	65.0	− 1.5	89	24	35	3	48	1.69	+ 0.78	0.29	0	14	14	9	8	sw.	A. G. Wallihan.
Mancos	Montezuma	6,960	13	63.7	− 3.2	86	10	32	5	42	2.18	+ 0.56	0.38	0	12	11	17	3	se.	B. M. Krumpanitzky.
Marble	Gunnison	7,951	3	58.2	.....	82	17	32	4†	43	2.13	.....	0.50	0	12	19	9	3	ne.	F. E. Morse.
Marshall Pass	Saguache	10,846	9	.....	.....	.....	.....	.....	.....	.....	2.39	.....	0.40	0	15	4	12	15	.....	Wm. L. Williams.
Meeker (near)	Rio Blanca	6,182	20	62.0	− 3.5	88	20	35	3†	49	3.59	+ 1.99	0.60	0	12	10	15	6	.....	T. Baker.
Montrose	Montrose	5,811	23	69.5	− 0.2	92	10†	41	5	42	1.59	+ 0.75	0.48	0	11	11	18	2	.....	U. S. Reclamation Service.
Nast	Pitkin	7,953	2	55.5	.....	80	17	31	6	44	3.71	.....	0.97	0	8	10	14	7	w.	Arthur Hanthorn.
Pagoda	Routt	6,500	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. J. W. Scott.
Pagosa Springs	Archuleta	7,108	5	62.0	.....	89	10	24	5	59	2.89	.....	0.64	0	11	7	21	3	sw.	E. T. Walker.
Paonia	Delta	5,694	17	67.5	− 5.0	89	10	45	5	39	1.50	+ 0.53	0.70	0	7	14	15	2	sw.	J. M. Underwood.
Pitkin	Gunnison	9,500	3	.....	.....	.....	.....	.....	.....	.....	2.14	.....	0.62	0	9	8	6	17	.....	Mrs. Maggie Cammann.
Pyramid	Rio Blanca	.....	1	59.9	.....	84	18†	35	3	42	2.29	.....	0.60	0	13	3	28	0	w.	E. E. Egry.
Rangely	....do	5,050	13	67.4	− 2.5	101	18	37	5	57	1.10	+ 0.47	0.70	0	3	11	11	9	w.	J. H. McGuire.
Redcliff	Eagle	8,695	19	.....	.....	.....	.....	.....	.....	.....	2.89	+ 0.73	0.60	0	12	14	6	11	.....	Dorothea Greiner.
Redvale	Montrose	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.85	.....	0.82	0	8	9	11	11	sw.	Dr. E. S. C. Foster.
Rico	Dolores	8,824	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clinton B. Smith.
Rifle	Garfield	5,437	.....	69.4	.....	92	17†	43	4	42	0.98	.....	0.23	0	11	13	14	4	sw.	Herman Eiche.
River Portal	Montrose	6,570	6	65.4	.....	89	10†	40	5	43	1.09	.....	0.20	0	14	8	20	3	.....	U. S. Reclamation Service.
Sapinero (near)	Gunnison	8,125	9	56.7	.....	77	21	32	6	41	1.71	.....	0.33	0	15	13	12	6	w.	W. F. Irving.
Shoshone	Garfield	6,110	2	67.4	.....	91	21	45	6	40	3.00	.....	0.34	0	17	12	9	10	.....	Central Colo. Power Co.
Silverton (near)	San Juan	9,400	5	52.6	.....	74	11†	25	1	38	4.17	.....	0.55	0	15	12	6	13	sw.	San Juan W. & P. Co.
Spruce Lodge	Grand	9,600	4	.....	.....	.....	.....	.....	.....	.....	4.46	.....	1.10	0	18	.....	.....	.....	.....	H. J. Wills.
Steamboat Springs	Routt	6,683	9	59.6	.....	88	10	31	4	51	4.98	.....	0.72	0	14	16	11	4	.....	Herbert B. Gee.
Tacoma	La Plata	7,300	5	.....	.....	.....	.....	.....	.....	.....	1.84	.....	0.52	1	13	5	12	14	s.	San Juan W. & P. Co.
Telluride	San Miguel	8,756	.....	57.0	.....	81	17	29	5†	50	3.09	.....	0.58	0	21	15	7	9	w.	Wm. T. March.
Terminal Dam	La Plata	8,300	5	.....	.....	.....	.....	.....	.....	.....	1.85	.....	0 69	0	9	17	7	7	sw.	San Juan W. & P. Co.
Uncompahgre Plateau	Montrose	8,400	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Martin Esser.
Yampa (near)	Routt	8,000	3	.....	.....	.....	.....	.....	.....	.....	4.67	.....	0 96	0	15	3	26	2	w.	Percy A. Hughes.
Utah.																				
Aneth	San Juan	4,800	8	77.4	.....	97	11	46	4	42	0.56	.....	0.24	0	6	18	11	2	.....	H. R. Antes.
Bluff	....do	.....	.....	79.2	.....	99	9	55	4†	38	1.19	.....	0.32	0	6	8	20	3	.....	Mrs. H. P. Raplee.
Canaan	Washington	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.93	.....	0.82	0	10	.....	.....	.....	.....	J. M. Lauritzen.
Castle Dale	Emery	5,500	13	67.2	− 2.3	93	17	35	5	44	2.00	+ 1.46	0.75	0	5	19	12	0	.....	James Jeffs.
Cisco	Grand	4,447	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Anderson.
Desert Lake	Emery	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.35	0	4	.....	.....	.....	.....	F. F. Noyes.
Dragon	Uinta	.....	1	69.1	.....	92	10†	39	5	49	2.10	.....	0.46	0	13	13	6	12	.....	H. D. Ford.
Duchesne	Wasatch	.....	5	65.1	.....	90	17†	35	5	45	1.24	.....	0.33	0	7	3	17	11	.....	M. M. Smith.
Elkhorn	Uinta	6,657	2	.....	.....	.....	.....	.....	.....	.....	0.72	.....	0.30	0	9	5	22	4	.....	Chas. De Moisy, jr.
Emery	Emery	6,200	11	63.8	− 2.1	86	16	32	1†	47	2.03	+ 1.61	1.08	0	2	4	0	27	sw.	H. C. Wickman.
Escalante	Garfield	5,700	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. H. Barney.
Fisher Valley	Grand	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Saunders.
Fort Duchesne	Uinta	5,700	24	70.2	− 0.9	97	10†	39	5	47	0.15	− 0.36	0.07	0	8	14	16	1	w.	G. W. Dickson.
Fruitland	Wasatch	7,625	1	61.7	.....	88	17	33	5	44	1.35	.....	0.46	0	10	8	11	12	sw.	J. Peter Naab.
Grayson	San Juan	.....	5	68.4	.....	89	11	42	5	36	2.78	.....	1.00	0	9	11	10	10	sw.	E. F. Thompson.
Green River	Emery	4,080	12	76.2	− 3.8	103	17	41	5	48	0.80	+ 0.57	0.29	0	7	7	23	1	sw.	Edgar E. Adams.
Hanksville	Wayne	4,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. J. Weber.
Harper	Carbon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Cassady.
Hite	Garfield	3,000	12	82.4	− 2.3	104	11	54	5	44	0.47	+ 0.07	0.22	0	4	14	15	2	se.	John P. Hite.
Hurricane	Washington	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.60	0	5	6	10	15	.....	Amos Workman.
Kanab	Kane	4,925	5	69.6	.....	97	16	42	2	40	1.91	.....	0.50	0	11	.....	.....	.....	.....	V. A. Farming Association.
La Sal	San Juan	7,000	9	64.2d	.....	84d	10	38d	4†	34d	1.58	.....	0.70	0	7	6d	16d	5d	.....	Gertrude W. Carpenter.

TABLE 1.—*Climatological data for July, 1912. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Continued.																				
Loa	Wayne	7,000	19																	W. S. McClellan.
Manila	Uinta	6,225	2	63.6		90	17	35	5	45	0.55		0.20	0	5	12	17	2		Daniel N. Nelson.
Moab	Grand	4,000	22	77.0	− 0.6	102	17	46	5	47	0.90	+ 0.31	0.32	0	8	5	20	6		Henry Crouse.
Monticello	San Juan	7,545	3	63.5		85	17†	39	4†	40	3.11		0.60	0	10	10	21	0	sw.	Geo. F. Barton.
New Harmony	Washington										3.15		1.30	0	4					Geo. F. Prince.
Orderville	Kane	6,660									1.79		0.55	0	14					F. A. Porter.
Pine Valley	Washington	6,000									3.05		1.02	0	11	8	10	13	s.	Mason Gardner.
Price	Carbon	5,557	1	70.0		96	17	46	4	45	1.04		0.26	0	9	18	8	5	se.	R. H. Thompson.
Ranch	Kane	6,700	9	60.6		83	17	35	2†	38	1.39		0.70	0	3	12	15	4	s.	J. W. Seaman.
San Rafael	Emery																			W. C. Foy.
St. George	Washington	2,880	25	75.9	− 6.4	103	16	50	5	44	1.61	+ 0.54	0.87	0	6	1	11	19		A. B. Ballantyne.
Scofield	Carbon	7,625	2	56.3		85	17	26	5	49	1.79		0.45	0	13	15	2	14	s.	B. Newren.
Springdale (near)	Washington	3,500	4	81.6		105	16	56	31	35	1.35		0.65	0	5	13	0	18		Hattie Wood.
Strawberry Tunnel (east)	Utah			53.8		80	17	24	5	50	2.30		0.74	0	9	9	7	15		U. S. Reclamation Service.
Sunnyside	Carbon	5,280	7																	A. Rader.
Teasdale	Wayne	7,000	2	61.6		84	10	35	5	38	1.34		0.67	0	12	7	10	14	w.	Henry Cullum.
Thompsons	Grand	5,150	1					48	5		1.22		0.49	0	6	13	16	2	sw.	A. M. Starmont.
Tropic	Garfield	7,000	15	64.6	− 2.9	91	10†	38	4	44	1.75	+ 0.84	0.54	0	6	3	22	6	sw.	E. P. Bolton.
Troutcreek Ranger	Uinta	9,200									3.16		0.60	0	15	4	13	14		Forest Supervisor.
Vernal	do	5,050	15	67.4	− 4.4	93	10†	40	5	46	0.48	− 0.30	0.18	0	5	21	6	4		S. P. Trim.
White Rocks	do										0.78		0.26	0	8	6	16	9		C. F. Keil.
Woodside	Emery	4,645	1	72.9		100	17	43	5	48	0.36		0.25	0	2	11	16	4	s.	D. P. Adams.
New Mexico.																				
Alma	Socorro	5,500	15	73.2	− 1.2	100	9†	43	5	51	3.55	+ 1.06	0.82	0	10	6	23	2	sw.	M. A. Balke.
Aragon	do		5	65.4		90	10	38	4	43	3.51		0.60	0	10	7	21	3	sw.	J. R. Milligan.
Aztec	San Juan	5,590	12								1.53	+ 0.45	0.94	0	4	8	19	4	sw.	Dr. T. J. West.
Berger's Ranch	McKinley	8,000		60.8		86	10	29	5	49	2.98		0.72	0	15	8	14	9	w.	Herman Berger.
Blackrock	do	6,500	3			95	8				2.71		0.53	0	18	9	4	18	w.	Patrick Des Georges.
Bloomfield	San Juan	5,500	17	73.0	− 1.6	97	17	38	5	54	0.67	− 0.29	0.37	0	5	6	24	1	se.	F. Le Clerc.
Cambray	Luna	4,215	13			105	8				1.87	+ 0.39	1.58	0	7	11	13	7	w.	Agent S. P. Ry.
Cliff	Grant	4,470	12	74.0	− 3.1	98	10	46	4	40	5.38	+ 2.61	1.10	0	13					W. C. Belden.
Columbus	Luna	4,054	3								2.22		0.98	0	8	14	14	3	sw.	Agent E. P. & S. W. Ry.
Deming	do	4,333	35	82.8		103	11	60	5†	38	2.00	− 0.07	1.05	0	3	15	13	3		Agent S. P. Ry.
Dulce	Rio Arriba	6,756	15	65.8[g]	+ 0.7	88[g]	11†	30[g]	5	53[g]	2.71	− 0.04	0.55	0	10	11	17	3	sw.	William R. Beyer.
Fort Bayard	Grant	6,152	37	70.6	− 2.1	95	10	51	24	33	2.42	− 0.60	0.47	0	14	16	15	0	w.	U. S. Genl. Hospital.
Fruitland	San Juan	4,800	18	70.8	− 3.7	94	17	40	5	46	2.29	+ 1.38	1.75	0	4	12	19	0	sw.	C. J. Collyer.
Gage	Luna	4,486	12	77.1		101	25	50	16†	36	5.75	+ 3.56	2.00	0	10	18	2	11	w.	Agent S. P. Ry.
Gila Planting Station	Grant	6,475	1	69.6		93	10	51	3†	32	3.23		0.70	0	13	16	11	4	se.	U. S. Forest Service.
G. O. S. Ranch	do	8,000		69.0		98	10	42	4†	48	2.91		0.92	0	10	7	18	6	e.	Victor Culberson.
Hachita	do	4,504	3								3.25		1.50	0	8	7	11	13	w.	Agent E. P. & S. W. Ry.
Haynes	Rio Arriba	6,600	1	67.3		91	28	35	5	50	1.36		0.48	0	5	9	19	3	nw.	Dr. J. R. Haynes.
Hermanes	Luna	4,451	3			101	9	54	5		1.19		0.20	0	9	13	2	16	w.	Agent E. P. & S. W. Ry.
Lordsburg	Grant	4,245	29	77.0	− 5.3	104	10	50	6	47	4.19	+ 2.34	1.10	0	10	1	29	1	sw.	J. H. McClure.
Luna	Socorro	7,300	7	63.2		88	11	33	5	49	3.39	+ 1.10	0.67	0	10	5	26	0	s.	C. B. Martin.
Mimbres	Grant	5,007	7								4.81		1.07	0	10	15	15	1	sw.	C. Dennis.
Pinos Altos (near)	do	7,253	1					42	6		4.30		0.78	0	14	7	24	0	se.	O. L. Scott.
Pratt	do	4,415	3								1.56		0.94	0	4	23	8	0	w.	Agent E. P. & S. W. Ry.
Redrock	do	4,150	7								3.51		1.31	0	12	6	22	3		Robt. H. Woods.
Rodeo	do	4,118	3			104	10†				1.50		0.75	0	7	5	18	8		Agent E. P. & S. W. Ry.
Silver City	do	5,860	1	72.0		100	10	49	5	40	5.40		1.83	0	12	18	10	3	w.	E. M. Brumback.
Arizona.																				
Allaires Ranch	Cochise	4,184	16								4.31	+ 1.72	1.13	0	12	11	11	9	w.	Thomas Allaire.
Alpine	Apache	8,500	3	58.2		88	11			50[c]	3.33		0.75	0	13	9	19	3		U. S. Forest Service.
Aztec	Yuma	492	12	88.9	− 6.4	112	8	65	4†	41	T.	− 0.22	T.	0	0	11	0	20	w.	Agent, S. P. Ry.
Benson	Cochise	3,523	30	75.6	− 9.5	106	9			48[a]	2.19	+ 0.14	0.70	0	8					Do.
Bisbee	do	5,500	22	71.8	− 3.5	95	10	53	5	31	5.34	+ 1.74	2.00	0	16	8	7	16	se.	Rev. J. G. Pritchard.
Blue	Greenlee	6,000									4.48		0.73	0	12	7	24	0	s.	Mary A. Jones.
Bowie	Cochise	3,756	34	76.8	− 3.7	109	10	49	26	44	4.20	+ 1.50	1.27	0	6	2	19	10	se.	Agent, S. P. Ry.
Buckeye	Maricopa	980	20	86.4	− 1.0	112	11	56	4	46	1.16	− 0.07	0.68	0	5	19	8	4	sw.	H. E. Kell.
Canille	Santa Cruz	5,225	3								8.51		3.00	0	17	6	17	8	se.	Robert A. Rodgers.
Casa Grande	Pinal	1,396	30								1.30	+ 0.54	0.50	0	5	20	1	10	w.	Agent, S. P. Ry.
Casa Grande Ruins	do	1,422	4	84.7		109	10	56	3	44	4.52		1.41	0	9	11	15	5	sw.	Frank Pinkley.
Cavecreek	Maricopa	1,520	5																	E. A. Howard.
Chin Lee	Apache	6,090	4	70.0		96	10†			55[b]	1.02		0.48	0	9	5	5	21	sw.	Rev. L. Ostermann, O. F. M.
Chlarsons Mill	Graham	8,000	7	63.6		84	10	46	5†	30	5.64		1.00	0	12	2	20	9		Hiram R. Chlarson.
Clifton	Greenlee	3,584	4	83.1		109	10	64	4†	34	5.21	+ 3.35	1.93	0	11	12	17	2		Ariz. & N. Mex. Ry. Co.
Cline	Gila	2,300	11	81.2	− 3.2	105	10	54	4†	46	3.03	+ 1.14	0.60	0	8	9	17	5	sw.	W. M. Clanton.
Cochise	Cochise	4,219	14	77.1	− 4.3	104	10	43	6†	57	4.45	+ 2.40	1.14	0	12	19	1	11		Agent, S. P. Ry.
Columbia	Yavapai	1,900	12	86.6	− 1.1	110	9	64	26	32	8.00	+ 5.89	2.65	0	10	19	3	9	se.	M. J. Nolan.
Courtland	Cochise	4,543	3								3.76		0.75	0	12	8	18	5		Agent, E. P. & SW. R. R.
Dos Cabezos	do	5,250	4	72.4		104	8	40	29	54	5.84		1.13	0	14	8	13	10	w.	Neil Erickson.
Douglas	do	3,930	9	77.4		107	10	41	5	56	2.31		0.40	0	17	11	7	13	sw.	Dr. F. T. Wright.
Dudleyville	Pinal	2,204	11	77.2	−10.1	103	10	56	3†	40	3.90	+ 1.93	1.50	0	15	9	12	10	sw.	George F. Cook.
Fairbank	Cochise	3,862	3								6.48		2.40	0	9	3	13	15	sw.	Agent, E. P. & SW. R. R.
Flagstaff	Coconino	6,907	20	61.2	− 3.8	85	11	32	4†	43	4.96	+ 3.17	1.18	0	18	5	15	11	w.	U. S. Weather Bureau.
Flagstaff (1)	do	7,500	4	58.1		84	11	26	5	49	3.51		0.60	0	14	9	12	10	sw.	U. S. Forest Service.
Florence	Pinal	1,504	12	85.6	− 2.7	111	11	66	2†	44	2.25	+ 0.65	1.30	0	6	16	0	15	w.	Agent, Arizona Eastern R. R.
Fort Apache	Navajo	5,200	41	70.8	− 3.2	99	10	44	5	44	4.02	+ 1.06	1.13	0	11	11	8	12	sw.	Post Surgeon, U. S. Army.
Fort Huachuca	Coochise	5,100	26	74.9	− 2.1	100	9†	56	24	35	6.50	+ 2.92	2.00	0	10	14	0	17	sw.	Do.
Fort Mojave	Mohave	604	38																	August F. Duclos.
Gilabend	Maricopa	737	21	88.8	− 5.4	112	10	58	3	47	1.06	+ 0.28	0.31	0	9	9	18	4	s.	Agent, S. P. Ry.
Globe	Gila	3,525	11	78.8	− 3.7	106	10	56	4	40	4.42	+ 2.06	1.29	0	13	8	22	1	nw.	B. G. Fox, M. D.
Grand Canyon	Coconino	6,866	7	62.3		86	9	35	1	42[a]	2.23		0.45	0	9	12	18	1	sw.	Agent, Grand Canyon R. R.
Grand Canyon (1)	do	3,676	4	77.7		100	9	51	4	35	1.55		0.42	0	11	5	17	9		B. W. Zachau.
Granite Reef Dam	Maricopa	1,372	18	86.1	− 3.7	110	10	58	4	41	2.81	+ 1.38	1.00	0	8	12	16	3	w.	U. S. Reclamation Service.
Heber	Navajo																			F. W. Bragg.
Hereford	Cochise	4,180	3								4.00		0.90	0	12	6	23	2	sw.	Agent, E. P. & SW. R. R.
Holbrook	Navajo	5,069	21	76.2	+ 0.7	102	7	45	7	57	2.27	+ 0.56	0.76	0	6	22	7	2	sw.	Thorwald Larson.
Indian Oasis	Pima	3,000	2								2.89		1.45	0	12	4	0	27	se.	Joseph Menager.
Intake	Gila	2,230	7								3.53		0.74	0	8	11	15	5	e.	U. S. Reclamation Service.
Jerome	Yavapai	4,743	15	74.4	− 5.5	96	9†	54	4†	33	5.79	+ 3.29	1.23	0	12	6	22	3	s.	Dr. L. A. Hawkins.

TABLE 1.—*Climatological data for July, 1912. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Continued.																				
Keams Canyon	Navajo	6,600	7	68.6	.....	91	10†	39	4†	44	2.78	.....	1.20	0	8	14	17	0	w.	David E. Livesay.
Kingman	Mohave	3,326	10	80.0	− 2.5	102	10	55	3†	39	0.09	− 0.79	0.03	0	4	18	0	13	s.	Agent A. T. & S. F. Ry.
Lakeside	Navajo	6,500	8	64.6	.....	92	10	38	5	46	9.16	+ 7.02	3.57	0	14	8	0	23	sw.	Prof. Joseph Peterson.
Lewis Springs	Cochise	4,029	3	.....	.....	.....	.....	.....	.....	.....	4.19	.....	1.00	0	11	5	7	19	.....	Agent E. P. & S. W. R. R.
McNeal	....do	4,490	2	.....	.....	.....	.....	.....	.....	.....	3.16	.....	0.67	0	13	6	21	4	sw.	Miles McNeal.
Maricopa	Pinal	1,186	36	88.0	− 5.9	114	10	58	5	47	1.80	+ 1.03	1.10	0	5	18	10	3	w.	Agent S. P. Ry.
Mesa	Maricopa	1,244	17	82.2	− 6.2	107	9	56	3	43	1.57	+ 0.15	0.80	0	4	9	15	7	sw.	C. L. Diehl.
Mohawk Summit	Yuma	538	12	.....	.....	114	8	64	4	....	0.19	− 0.03	0.12	0	4	21	3	7	w.	Agent S. P. Ry.
Naco	Cochise	4,579	3	.....	.....	.....	.....	.....	.....	.....	3.73	.....	1.65	0	12	7	24	0	w.	Agent E. P. & S. W. R. R.
Natural Bridge	Gila	4,990	23	.....	.....	.....	.....	.....	.....	.....	3.64	+ 1.14	1.00	0	9	8	21	2	sw.	D. G. Goodfellow.
Oracle	Pinal	4,500	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Lawson.
Osborn	Cochise	4,676	3	.....	.....	.....	.....	.....	.....	.....	3.85	.....	1.14	0	15	5	22	4	w.	Agent E. P. & S. W. R. R.
Paradise	....do	5,436	5	69.6	.....	104	8	42	5	51	4.89	.....	2.58	0	11	4	23	4	nw.	J. C. Hancock.
Parker	Yuma	345	14	88.4	− 3.7	113	10	65	5†	45	1.78	+ 1.41	0.50	0	6	20	8	3	sw.	M. A. Israel, M. D.
Payson	Gila	5,550	4	70.3	.....	97	10	42	4	47°	1.73	.....	0.44	0	6	.....	.....	.....	.....	Mart McDonald.
Phoenix	Maricopa	1,108	17	85.4	− 5.0	108	10	63	5	37	1.29	+ 0.22	0.52	0	9	12	12	7	e.	U. S. Weather Bureau.
Phoenix (1)	....do	1,092	20	85.4	− 3.6	109	8†	58	4	46	2.03	+ 0.81	1.45	0	3	12	13	6	w.	George Acuff.
Phoenix (2)	....do	1,180	4	85.2	.....	105	10	60	4†	42	1.82	.....	0.92	0	5	22	0	9	sw.	Salt River Val. Nurseries.
Pinal Ranch	Pinal	4,520	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Irion & Craig.
Pinto	Apache	5,660	8	.....	.....	.....	.....	.....	.....	.....	2.22	.....	0.95	0	4	14	17	0	sw.	Mrs. Celia F. Henning.
Prescott	Yavapai	5,320	44	67.5	− 4.0	93	10	34	3	42	6.19	+ 3.29	1.93	0	15	13	13	5	.....	John W. Flinn, M. D.
Quartzsite	Yuma	800	5	89.2	.....	114	11	52	3	42	1.75	.....	1.20	0	6	11	11	9	sw.	W. E. Scott.
Redrock	Pinal	1,864	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Crowell.
Roosevelt	Gila	2,175	7	.....	.....	108	10†	.....	.....	.....	3.95	.....	0.95	0	7	6	25	0	w.	U. S. Reclamation Service.
Sacaton	Pinal	1,280	5	85.6	.....	110	10	56	4	46	4.27	.....	2.00	0	6	.....	.....	.....	.....	E. W. Hudson.
St. Michaels	Apache	6,950	25	67.2	− 2.0	90	11†	39	5	44	1.33	− 0.74	0.40	0	9	4	16	11	sw.	Rev. A. Weber, O. F. M.
Salome	Yuma	1,875	5	78.3	.....	106	11	50	3†	47	0.89	.....	0.82	0	2	13	15	3	se.	Mrs. M. B. Swartz.
San Simon	Cochise	3,609	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent S. P. Ry.
Seligman	Yavapai	5,219	7	67.6	.....	91	9†	37	4	47	1.50	.....	1.00	0	11	8	0	23	sw.	Librarian A. T. & S. F. Ry.
Sentinel	Maricopa	685	14	90.6	− 4.1	112	11	60	4	39	0.07	− 0.61	0.04	0	4	19	10	2	sw.	Agent S. P. Ry.
Silverbell	Pima	2,650	7	82.6	.....	104	11	60	4	29	4.86	.....	1.30	0	8	15	0	16	s.	Imperial Copper Co.
Snowflake	Navajo	5,644	6	68.6	.....	96	10†	37	4†	53	0.65	.....	0.12	0	7	5	7	19	.....	Wm. J. Flake.
Springerville	Apache	6,862	2	63.6	.....	89	10	37	6	48	2.04	.....	0.70	0	11	15	6	10	sw.	U. S. Forest Service.
Supai	Coconino	3,200	4	77.4	.....	106	10†	46	4	49	1.62	.....	0.36	0	10	8	9	14	.....	Laura B. Symons.
Tempe	Maricopa	1,165	8	85.0	.....	110	10	57	4	44	2.67	.....	0.70	0	9	14	14	3	nw.	F. H. Simmons.
Thatcher	Graham	2,800	9	81.6	.....	113	10	51	5	53°	3.16	.....	0.63	0	12	9	18	4	.....	Prof. J. H. Larson.
Tombstone	Cochise	4,550	17	76.2	− 2.1	105	10	53	3	40	5.42	+ 2.25	1.48	0	9	6	23	2	.....	F. N. Walcott.
Truxton	Mohave	3,997	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Truxton Canyon Ind. School.
Tuba	Coconino	4,500	12	72.6	− 5.1	97	17	44	4	44	0.98	+ 0.32	0.31	0	8	10	15	6	sw.	H. P. Marble.
Tucson	Pima	2,390	32	81.6	− 5.1	105	7†	.....	.....	43a	3.00	+ 0.90	1.20	0	8	5	10	16	nw.	University of Arizona.
Tucson (1)	....do	2,380	4	80.3	.....	107	8	42	4	51	3.41	.....	1.11	0	8	13	10	8	sw.	James F. Record.
Tucson (2)	....do	2,526	....	80.8	.....	106	10	52	5	44	3.49	.....	0.96	0	12	12	3	16	w.	U. S. Coast & Geodetic Surv.
Vail	....do	3,421	14	81.2	− 4.5	104	11	52	24	39	4.06	+ 3.00	2.01	0	3	24	0	7	.....	Agent, S. P. Ry.
Walnut Grove	Yavapai	3,649	22	.....	.....	.....	.....	.....	.....	.....	5.52	+ 3.68	1.67	0	9	.....	.....	.....	.....	J. O. Carter.
Wickenburg	Maricopa	2,072	13	82.2	− 3.5	113	11	54	25	50	2.22	+ 1.21	1.40	0	2	16	12	3	sw.	Agent S. F. P. & P. Ry.
Wilcox	Cochise	4,164	32	75.4	− 6.4	103	10	50	5	48	3.30	+ 1.31	0.72	0	10	.....	.....	.....	s.	Agent S. P. Ry.
Williams	Coconino	6,750	13	64.7	− 3.3	88	8†	32	4	50	4.97	+ 2.04	1.42	0	7	10	21	0	.....	E. J. Nordyke.
Winslow	Navajo	4,853	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John F. Bauer.
Yarnell	Yavapai	4,700	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. L. Bartholomew.
Yuma	Yuma	141	32	88.8	− 2.1	110	11	61	4	40	0.18	+ 0.06	0.14	0	2	28	3	0	sw.	U. S. Weather Bureau.
Yuma (1)	....do	150	5	83.1	.....	107	11	53	2†	47	0.08	.....	0.06	0	2	24	5	2	sw.	E. L. Crane.
Nevada.																				
Caliente	Lincoln	4,407	2	68.8	.....	100	16	40	8	53	0.32	.....	0.10	0	4	21	8	2	se.	Salt Lake Route.
Logan	Clark	1,355	5	82.5	.....	113	16	55	4	46	0.44	.....	0.22	0	4	24	6	1	s.	O. W. Jarvis.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T, Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 9, Colorado Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Battle Mountain	Snake																																
Daniel	Green	T.		T.	T.	T.								T.				T.	T.	.45	T.	T.					T.				.65		1.10
Eden	do				.08														.01	.27		.03	.01								.26	.04	0.72
Green River	do		T.		.13			T.	T.			.10					T.						T.								T.	.36	0.59
Pinedale	do	.01												.01					.15	.65											.15	.24	1.21
Rambler	Snake																																
Willow Creek Cabin	Green																																
Big Piney	do																																
Colorado.																																	
Ashcroft	Grand	.13		.10	.13							T.		.08	.22	.07				.03	.05		.45	.15	.08	.18	.51	.19	.05	.06	.09	.02	2.59
Breckenridge	do																																
Buford	White				.05							.08							.02	.28	.20						.51		.36	.12		.20	.28	2.10
Cascade	San Juan	.26	.02	.01	.30	.03									.07	.01	.03	.01		.75	.01	.32	.36	.35	.07	.41	.06	.19	.08	.16	.22	.01	3.73
Cedaredge	Gunnison				.19	.07						.04			.47					.05	.13						.25	.03				.19	1.42
Chromo	San Juan		T.											.20	.10	.25				.05		.30				.20			.20	T.	.10		1.40
Cochetopa	Gunnison																																
Collbran	Grand	T.	T.		.20	.01						T.	.04	T.	.52	.01			T.	.15	.03	.19	.09		T.	.45		.19	.01	T.	.10	.01	2.00
Columbine	Yampa				.09						.07		.05		.11				.65	.95						.20	1.65	.13	.11	.17	.09	.40	4.67
Columbine Ranch	Gunnison																																
Corona	Grand	1.08				.64											.42				.24			.26		.38	.18		.70			.64	4.54
Cortez	San Juan																																
Craig	Yampa																																
Crawford (near)	Gunnison				.20	.08						.02			.36				.68	.12	.14		.14	.01		.04		.73			.02		2.54
Crested Butte	do	.10			T.							T.	T.	.10	.13	.15				.05	T.	T.	.62		.30	.45	.16		T.		.38	.40	2.84
De Beque	Grand																																
Delta	Gunnison	T.	T.	T.	.23								T.	T.	.46				T.	.10		.10	.02			.09	.09						1.09
Dillon	Grand	.80	.50	.70	.60		.50	T.			.03	.04	.06	.11			.60	.40	.50	.60				.06	T.	T.	T.	T.	.10	.04	T.	T.	5.64
Durango	San Juan	.01	.02		.05									.02			.02		.03			.09	1.67	.06	.02	.02	.12		.09	.07		T.	2.29
Eureka	do	.18	.09	.12	.11												.12						.13	11		.12		.17	.20	.13			1.48
Fraser	Grand	.06		T.	.20									.05	.09	.71			.34	.03			.55		.19	.10		.58	.07	.09	.34	.39	3.79
Fruita	do	T.			T.										.54				T.	.22			T.			.13	T.	.30		.02	.02	T.	1.23
Glade Park	do				.16							T.	.01		.05				T.	.41		.01	.18			.30	T.	.13	.04	.11	.13	.04	1.57
Gladstone	San Juan	.30	.20	.42	.40	.03			.01	.02		.01				.33	.04			.09	.33	.19	.10	.10	.08	.11	.16	.37	.16	.05	.06	.05	3.61
Glenw'd Sp'gs(near)	Grand				.30	.25						T.			.22	.11				.60				11			.30	.40	.04		.20	.10	2.63
Grand Junction	do				.06								T.	.12					.15	.30		.01	T.			.05	T.	.05		T.	.02	.02	0.78
Grandlake	do	T.	T.		1.00								.25	T.			T.	.40	T.				1.40	T.	T.	.10	.25	.40	.32	T.	.20	.10	4.42
Grand Valley	do	T.	T.	T.	.24							T.	T.	.02	.06	.32	T.		T.	.05			T.			.02		.09			T.	T.	0.80
Gunnison	Gunnison	.03		.09	.05									.18	T.		.01		T.				.08	.02	.41	.06	.32	.16	T.		.03		1.44
Hesperus (near)	La Plata	T.			.45									.03			.03		.07	.02			.59	.51	T.		.30	.09		.30	.03		2.42
Horsefly	Gunnison				T.	.08							T.	.30	.52				.23	.20	.18		.05	.30	.22	.23	.08	.03	T.		.05	.28	2.75
Ironton	do	T.		.24	.20								.10	T.	.14	T.	.18			.37		T.	.34	.16	.22	.31	.63	T.	.10	.43	.41		3.83
Lake City	Gunnison	.05		.03	.01						T.	.01		.13	.14	.07		.05		.17		.04	.63	.12	.16	.12	.06	.06	.28	.25	.02	.05	2.45
Lay	Yampa	T.	T.		.15							T.	.25	.03	.07				.10	.13	.01	.15	.13			.23	.04	.03			.29	.08	1.69
Mancos	San Juan	.15			.17									.33	T.			.18	.04	.05			.38		.34		.31	.13		.03	.07		2.18
Marble	Grand	.24			.22	T.							.04		.50					.04	.11		.14		.22	.14	T.	.07	.07		.34		2.13
Marshall Pass	Gunnison			.15			.20		.10				.20	.40	.30			.10	.10	.12			.10	.18		.12	.10	.10	.12				2.39
Meeker (near)	White				.30							.12		.60			T.		T.	.08	.11		T.	.13		.51	.53	.35		.35	.25	.26	3.59
Montrose	Gunnison				.19										.48				.02	.01	.27		.38	.03		.12	.01				.04	.04	1.59
Nast	Grand				.18										.55				.18					.95		.21		.43		.97	.24		3.71
Pagoda	Yampa																																
Pagosa Springs	San Juan	.05		T.										.17		T.	.20	.24		T.		.64	.28	.43	.49	.04		.03		.32			2.89
Paonia	Gunnison					.28					T.				.70				T.		.07	T.	.11		T.	.22	T.	.06				.06	1.50
Pitkin	do	T.			T.									.42				.19	.12	.21			.19	.12		.06		.20	.63				2.14
Pyramid	Yampa	.05			.30							.08			.02				.12	.08			T.		.02	.43		.04	.60	.10	.10	.35	2.29
Rangely	White				T.	T.									T.								.30	.10		T.	T.		T.	.70	T.	T.	1.10
Redcliff	Grand	.20	T.	T.	.45			T.		T.	.60	.40			.12							.10	.33	T.	.20	.10	T.	.17	.10	T.		.12	2.89
Redvale	San Miguel				.19							T.		.17		T.	T.	T.	T.	.82			.65			.61		.07		T.	.32	.02	2.85
Rico	Dolores																																
Rifle	Grand	.07	.07		.22	.09						T.	.09	T.	.23	.10			T.					.05		.02		.01	.03		T.		0.98
River Portal	Gunnison				.13								.01		.20		.02		.15	.01	.17		.19	.01		.01	.01	.09			.04	.05	1.09
Sapinero (near)	do				.33	T.						T.		.26	.05	.01			.01	.08	.10		.13	.03	.13	.14	.23	.02		T.	.18	.01	1.71
Shoshone	Grand	.15	.04		.34	.02							.23	.09	.33					.14	.12		.01	.22	.80	.02		.29	.18	.01	.01		3.00
Silverton (near)	San Juan	.10	T.	.25	.37								.42	.27		.30	T.			.35			.15	.30	.18	.25	.22	T.	.24	.55	.22	T.	4.17
Spruce Lodge	Grand	.04		.04	.37	.13								.09	.09	.37		.11		.04		.15	.29		.16		1.10	.30	.18	.04	.36	.60	4.46
Steamboat Springs	Yampa	.25			.72								.47	.57	.20					.50	.12		.52	.22		.12			.48	.42	.21	.18	4.98
Tacoma	San Juan				.10									.05	.07	.02	.03			.30			.24	.52	.03	T.	.25	.06		.10	.07		1.84
Telluride	San Miguel	.02		.06	.26	.02									.13	.04	.03		.01	.22	.20	.04	.18	.24	.08	.40	.11	.13	.16	.58	.07	.11	3.09
Terminal Dam	San Juan	.11			.08															.69		T.	.31	.23	.03			.27		.08		.05	1.85
Uncompahgre Plateau.	Gunnison																																
Yampa (near)	Yampa				.40	.09							.16	.08	.96		T.		.23	.09		T.	.15	.13		.23	.75	.72		.30	.08	.30	4.67
Utah.																																	
Aneth	San Juan				.06																		.03			.07		.10			.06	.24	0.56
Bluff	do				.05										.27				.32						.21	.17					.17		1.19
Boneta	Green			.07											.56					.16						.65	.46			.11	.07		2.08
Canaan	Colorado		.07											.15			.07			.27						.08	.26	.03		.82	.07	.11	1.93
Castle Dale	Green																					.10				.50			.40	.75	.25		2.00
Cisco	Grand																																
Desert Lake	Colorado												.35											.29					.22	.21		1.07
Dragon	Green				.43	.02						.01	.21	.03	.39	T.				.14		.03	.16	.46		.02		.06			.14		2.10
Duchesne	do	T.			.28							T.	.05		.33				T.	.02	T.	T.	T.			T.	T.	.07			.31	.18	1.24
Elkhorn	do				.05							.02	.02	.08					.02	.30			.20					.01		.02			0.72
Emery	Colorado												1.08																T.	T.	.95		2.03
Escalante	do																																
Fisher Valley	Grand																																
Fort Duchesne	Green				T.							T.	.01	.02	T.				T.	.07		.01	.01				T.	.01		T.	.01	.01	0.15
Fruitland	do	T.		T.	.06							T.	.08	.01	.23				T.	.04		.06					*	.12		.25	.46	.04	1.35
Grayson	San Juan				.05										.60	.11				.52	.25		.10				1.00	.10	.05				2.78
Green River	Green				.01							.03	.01		T.				T.	.23						T.	.29		.02		.21		0.80
Hanksville	Colorado																																
Harper	Green																																
Hite	Colorado			T.								T.	T.	T.					T.							.04	.19	.22	T.	.02			0.47
Hurricane	do																		.50							T.	.60		.30	.40	T.	.25	2.05
Kanab	do			.08								T.	.08	.25				.11	.03							.14	.06	.50	.11	.48	.07		1.91
La Sal	Grand				.17								T.	T.			.10			.26	T.	T.	T.	T.	T.	.11	.17			.07	.70		1.58
Loa	Colorado																																
Manila	Green				.04							.20								.19	.08											.04	0.55
Moab	Grand				.32								T.						.01	.08						.08	.10	.12		.01	.18		0.90

TABLE 2.—*Daily precipitation for July, 1912. District No. 9*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Utah—Continued.																																	
Monticello	do				.20										.02					.40	.27					.14	.40		.18	.50	.60	.49	3.11
New Harmony	Colorado																	1.30										.67		.96		.22	3.15
Orderville	do			.17	.28							.05	.12	.06			.54	.01								.08	.04	.08	.05	.18	.03	.10	1.79
Pine Valley	do			T.									.24	.06	.35	T.			1.02	.25		T.				.05	.55	.02	.20	.20	.11		3.05
Price	Green				.21								.26	.07					.02							.02	.19	.02	.03		.22		1.04
Ranch	Colorado		T.	.25										.70	T.			T.						T.	T.	T.	T.	T.		.44	T.	1.39
San Rafael	Green																		.87							.05		.38	.18	.03	.10	1.61
St. George	Colorado												.04	.06	.15				.26	.04		.03				.07	.07	.09		.45	.10	.42	1.79
Scofield	Greene	.01																.65								.10			.15	.35			1.35
Springdale	Colorado							.10																									2.30
Strawberry Tunnel+E.	Green				.05								.06	.20	.25				.46	.10		T.				.74		T.	.18		.26	
Sunnyside	do											.03	.07	.05	.08		.02	T.	T.	.10	T.					.09	.67	.10	.07	.04	T.		1.34
Teasdale	Colorado				.02							T.	.01		T.					.27		T.	T.			T.	.05		.24	.07		.49	1.22
Thompsons	Green				.09							T.	T.	.41	T.	T.	T.	.05		T.	T.					.26	.44	.54		.05	T.	1.75
Tropic	Colorado									T.	.60	.07	.07	.20					.60	.30	.10			.10		.15	.14		.16	T.	.35	T.	3.16
Troutcreek Ranger	Green	.10			.12	.10							T.						.10	.05								.04			.11	0.48
Vernal	do				.18								.05	.11	.16				.07	.26								.10		.01		.02	0.78
White Rocks	do												T.	.11	T.											.25						0.36
Woodside	do				T.																												
New Mexico.																																	
Alma	Gila											T.	T.		.80		T.		.10	.40	.10	T.	.05	T.	.10	.82			.52	.54	.12		3.55
Aragon	do																T.	T.	.40	.40	.50	.32	.27	.60	.60	T.	.22	.10	.10				3.51
Aztec	San Juan	T.			T.									.28				T.				T.	.14	.94			.17			T.			1.53
Berger's Ranch	L. Colorado												.03	.04	.05	.54			.04	.42		.72	.40	.08	.23		.03	.11		.12	.09	.08	2.98
Blackrock	do												.04	.04			.02	.04	.01	.04	.36	.01	.08	.53	.01	.36	.15	.48	.40	.12	.01	.01	2.71
Bloomfield	San Juan	T.	T.	T.								T.	T.	T.	T.	T.		T.	T.	T.		.15	.37	.01	T.	T.	.04	T.	.10	T.	T.	T.	0.67
Cambray	Mimbres												.04				.02		.03			.14	1.58	.03		.03							1.87
Cliff	Gila														.14	.14	.12	.02	.04	1.10	T.		1.05	1.03	.36	.49	.13	T.	.03	.73				5.38
Columbus	do															30						.98	.08	.15	.15	.15			.17	.24			2.22
Deming	Mimbres																					1.05	.88					.07					2.00
Dulce	San Juan													.06						.05	.02	.10	.45	.50	.55	.47	.01			.47	.05		2.71
Fort Bayard	Mimbres	T.													T.	.19	.47	.02	.01	.30	.02	T.	.38	.42	.08	.28	.15		*	.05	.05		2.42
Fruitland	San Juan													.27					T.			T.	1.75		T.	.15	T.	T.		.12			2.29
Gage	Mimbres																																
Gila Planting Station.	do	T.								T.		T.	T.		.03	.35	.23	T.		.18	.25	.25	.65	.70	.11	.08	.10		.17	.13			3.23
G. O. S. Ranch	Gila	T.								T.		T.			.02	.26	.48	.01	.07	T.		.50	.21	.92	.01		T.		.43				2.91
Hachita	do																.10		.07	.49			.73	1.50	.10		.18		.08				3.25
Haynes	San Juan														.08	.30							.48							.28		.22	1.36
Hermanes	Gila														.20			T.	.20	.18	T.	.08	.15	.08	.05	.05				.20			1.19
Lordsburg	do													.05		.12	.25	.05	1.02		.11		1.10	.05	1.00			.44				4.19
Luna	do											.26	T.		.09	T.	.62	.09	.16	T.	T.	.67	.21	.52			.55		.22				3.39
Mimbres	Mimbres														.06	.37	.26			.48		.28	1.00	1.07	.12		.37		.80				4.81
Pinos Altos (near)	Gila	.03													.11	.46	.28	.50	.18	.33	.78		.21	.68	.03		.10	.14	.47				4.30
Pratt	do																			.40	.15								.94		.07		1.56
Redrock	do													.14	.15	.06	.08		1.18	.05		1.31	.05		.11	.23		.12	.03				3.51
Rodeo	do															T.	.05		.10	.75	T.		.05	.20	.30							1.50
Silver City	Mimbres	.04	T.										.05			T.	.05		.10	.75	T.		.05	.20	.30							1.50
													.07		1.83	.27	.34	T.	1.23	T.	T.	.38	.45	.07	.45	.08			T.	.19			5.40
Arizona.																																	
Allaires Ranch	Sonora												1.13		.04	.20			.50	.04		.38	.57	.68	.03			.03	.36	.35			4.31
Alpine	Gila												.30	.01	.40		.20		.40	.10	.40		.10		.38	.20			.07	.75	.02		3.33
Aztec	do													T.																			T.
Benson	San Pedro										.10					T.		.21		.20		.10	.20	.10	.70				.38		.20		2.19
Bisbee	do												.61	.37	2.00		.30	.05	T.	.03	.04	.12	.26	.08	.48		.07	.10	.80	.01		.02	5.34
Blue	Gila										.05				.02	.41					.04	.12		.73	.65	.72	.30	.10			.10	.20		4.48
Bowie	do														1.27		.58			.78			.46				.61		.50				4.20
Buckeye	do																				.70	.50				.30		T.	.68	.10			1.16
Canille	San Pedro											T.	T.				T.	.27			T.			.05	.06		T.	.68	.10				8.51
Casa Grande	Gila								T.		T.	.24	.41	.97	.10		3.00	.33	T.	.11	.08	.07	.64	.05	1.45	T.	.06	.22	.62	.01	.15		1.30
Casa Grande Ruins	do																		.40			T.	T.		.50	.20			.16	.04			4.52
Cavecreek	Verde												T.	.13	T.				.82			.03	.29		1.00	.01			.05	.78	1.41		
Chin Lee	San Juan	T.	.02	T.	T.									T.	T.			T.	.05	T.		.04	.48		.10	.06	.02	T.	.10	T	.15		1.02
Chlarsons Mill	Gila													.23		.20	.10		.21	.45	.10			1.00	1.00	.80	.55	.40		.60			5.64
Clifton	do													.07	.47	.02	T.		.11	.74			1.93	.65	.35	.34	.19		.34				5.21
Cline	Salt													.42	.21	.05						.36	.58	.60					.48		.33		3.03
Cochise	Desert													.60	.40	.08			.75			.25	.89	.40	.50		.08	.12	.08	.30			4.45
Columbia	Agua Fria														.45			.50	.55	.30	.40				.15	2.50	2.65	.40	.10				8.00
Courtland	White													.75		.23	.04		.48	.08	.04	.02		.09	.67	.10		.26		.40			3.76
Dos Cabezos	Desert													.21	1.13	.21	.16		.32	.35		.93		.16	.20	.33	.06	.70		.38	.70		5.84
Douglas	Sonora										T.			.30	.40	.33	.08	.07	.05	.06	.27	.03	.33	.06	.14	.03	T.	.01	.07	.01	.07		2.31
Dudleyville	Gila										T.				.44	.10	.03	T.	.01	.10	.25	T.	.44	1.50	T.	.30	.13	.05	T.	.06	.04	.45		3.90
Fairbank	San Pedro													.05	.61					.60	.30		.40	.12	1.75		T.	2.40	.25					6.48
Flagstaff	Little Colorado.	.03		T.	T.							.01	.06	.15	.28		.01	T.	.01	1.18	.01	.04			.56	.78	.69	.27	.13	.06	.56	.13	4.96
Flagstaff (1)	do				.05								T.	.34	.32			.02	T.	.01	.41	.15	.01			.60	.59	.38	.23	.08	.32		3.51
Florence	Gila													.10						.70		.30			1.00	.30		.05			.50		2.25
Fort Apache	Salt													.19		.21	.12					.73	.28	.14	.32	1.13	.15		.05				4.02
Fort Huachuca	San Pedro											1.10	.20					.10	.10			T.		1.80	.20	2.00		T.	.70	.20	.10		6.50
Fort Mojave	Colorado																	.01	.01	.26			.10			.03		.31	.20	.04			1.06
Gilabend	Gila											.10			.13		.08		.55	.05	.04		.15	.38	.20	.59	.03			.17	.76	1.29		4.42
Globe	Salt											.02		.20	.42								.40					.20	.45		.20	.30		2.23
Grand Canyon	Colorado				.04									.06	.23	.04			.05				.03	.05		.42	.10			.30	.17		1.55
Grand Canyon (1)	do				.10								T.	T.	.03		T.		1.00				.18	.83		.10	.20	T.		.19		.28		2.81
Granite Reef Dam	Salt													.09		.38	.52	.13	.05	.42	.23	.03	1.05	.09	.02	.27	T.		.05	.17	.02			3.52
Greer	Little Colorado.																																
Heber	do												.02		.90		.05		.63			.15	.02	.05	.10	.76			.75	.42	.15		4.00
Hereford	Gila											T.			.12				.32		.27						.76					.40	.40	2.27
Holbrook	L. Colorado											.08	.35	.15	T.	.05	.03			1.45	.05	.05		T.	.05	.30				.16	.17		2.89
Indian Oasis	Desert												.25				.05					.10	.30			.60			.74		.04	1.45	3.53
Intake	Salt													.48	.06				.75	.27		.43		.75	.06	.07	1.23	.66	.46		.65		5.79
Jerome	Verde													.01	.17				.08							.03	.01	.02	.03				2.78
Keams Canyon	L. Colorado	T.			T.																								.03	1.02	.20		0.09
Kingman	Colorado												.06	.03	.58				.17	.39	.26	.03	1.95	.68	.19	3.57								9.16
Lakeside	L. Colorado														.80				.15		.38	T.		.61	.02	1.00	.09	.15	.15	.29		.55		4.19
Lewis Springs	San Pedro											T.	T.	T.	.20		T.	.13	.04	.02	.59	.08	T.	.58	.06	.67	.18		T.	.19	.07	.35		3.16
McNeal	Desert																																

TABLE 2.—*Daily precipitation for July, 1912. District No. 9*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Arizona—Contd.																																	
Maricopa	Gila													.07											.30	.03	.30			1.10			1.80
Mesa ‖	Salt												T.	T.		T.		.55			.02			T.	.20	T.				.80			1.57
Mohawk Summit	Gila												.01	.03				.12									.03							0.19
Naco	San Pedro										T.		.07	.35	.13			.11	.05	.22		.45	.20		1.65		.06	.04	.40				3.73
Natural Bridge	Verde													.48	.15		.10			.27			.25				.50		.40	.49	1.00		3.64
Osborn	San Pedro												.09	.41			.14	.15	.03	.52	.25	.38	.23	.09	1.14		.09	.16	.14	.03			3.85
Paradise	Desert													T.	.28		.12	.07	.12	.37	.12		.55	.08	2.58		.22			.38			4.89
Parker	Colorado												.20	.92		.10		.01									.05	.50					1.78
Payson	Verde												T.	.34	.13					T.					29		.37		.44	.16			1.73
Phoenix	Salt												.02	T.		T.	T.	.38	.02		.16	T.			.13		.04	T.	.02	.06	.46		1.29
Phoenix (1)	....do											T.	T.	T.			T.	T.	1.45		T.				.05	T.	T.		T.	T.	.53		2.03
Phoenix (2)	....do															T.	T.	.92				.19			.14		.08	T.	T.	T.	.49		1.82
Pinal Ranch	Gila																																
Pinto	L. Colorado												T.	T.	T.			T.	T.			T.	.25				.95	T.	.92		.10		2.22
Prescott	Hassayampa										T.			T.	.16		.98	.16	.75	.20	.05	.02			.23	.84	1.93	.18	.11	.22	.12	.24	6.19
Quartsite	Colorado												.06	1.20	.03			.20									.05	.21					1.75
Redrock	Santa Cruz																																
Roosevelt	Salt												.15	.50							.65		.75		.95				.60	.35			3.95
Sacaton	Gila												.07					.74		.69				.72			.05			2.00			4.27
St. Michaels	L. Colorado		T.											.05		.10			.10		.08	.23	.40	.05	T.	.06	.26		T.				1.33
Salome	Colorado													T.												82		.07					0.89
Seligman	Verde												T.	.09	.05		.01	T.	.05						T.	.06	1.00	.05	.06	T.	.02	.03	.08	1.50
Sentinel	Gila													.01				.01		.01						.04							0.07
Silverbell	Santa Cruz												.10	1.30				.97		.07			.38		1.29					.30	.45		4.86
Snowflake	L. Colorado												T.	.12	T.				.12	.10		T.		.10	.10				.05	.06	T.		0.65
Springerville	....do											.05		.12	.15		.05		.70		.15	.08	.08	.17		.40			.09				2.04
Supai	Colorado				.01								.36		.16			.11	.25							.29		.05		.21	.05	.13	1.62
Tempe	Salt												.02	.08	.13	T.	T.		.49			.36			.21	.01	.70	T.	T.		.67		2.67
Thatcher	Gila												.10	.26	.15			T.		.50	.01		.60	.15	.63	.17			.09	.40	.10		3.16
Tombstone	San Pedro							T.					.70					T.	1.44	.39	.16		16	1.48	.38			.61		.10			5.42
Truxton	Colorado																																
Tuba	Little Colorado.				.05									.16				.16						.05		.15			.31		.07	.03	0.98
Tucson	Santa Cruz											T.	T.	.62	T.		.28			1.20			.37		.39				.09	.02	.03		3.00
Tucson (1)	....do												.20	.40				1.11					.62		.45				.12	.13	.38		3.41
Tucson (2)	....do											T.	T.	.96			.01	.02	.01	.68	T.		.78	.02	.75	.11	T.		.10	.01	.04		3.49
Vail	....do													1.65											2.01			.40					4.06
Walnut Grove	Hassayampa											T.	T.	.80			.30		.50	.70							1.20		1.49	.18	.18	.17	5.52
Wickenburg	....do																	1.40									.82							2.22
Willcox	Desert												(*)	.72	.10		.14		.49				30	.20	.52		.30		.25		.28		3.30
Williams	Colorado													1.42	.90		.10								.40		.90		.80		.45		4.97
Winslow	Little Colorado.																																
Yarnell	Hassayampa																																
Yuma	Colorado												.04					.14															0.18
Yuma (1)	....do												.02					.06											T.				0.08
Nevada.																																	
Caliente	Colorado													.10	.10															.10	.02			0.32
Logan	....do													.03					.03											.16	.22			0.44

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.										New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George.§§		Bloomfield.		Fort Bayard.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	69	40	79	48	76	46	87	62	71	38	70	40	72	34	74	32	85	48	93	63	92	65	90	57	85	52	84	58
2....	70	39	81	40	78	46	85	65	72	37	72	47	71	35	79	35	83	43	92	66	88	63	83	59	84	52	83	55
3....	69	42	79	48	65	46	73	56	74	42	72	35	67	34	78	32	80	50	89	73	81	66	79	65	81	58	81	55
4....	71	43	69	37	61	42	66	50	75	39	66	35	54	31	81	35	76	42	80	61	81	57	83	53	70	50	78	52
5....	70	41	79	40	75	36	80	49	79	35	70	39	67	42	83	36	83	39	90	54	86	46	93	50	81	38	82	52
6....	75	45	82	42	83	41	91	58	77	31	62	55	78	33	75	32	89	47	98	56	95	48	95	51	88	43	87	54
7....	70	35	88	47	85	44	93	62	74	34	80	40	79	38	80	35	93	47	100	56	94	55	95	60	94	40	89	59
8....	65	38	81	46	85	42	93	59	80	45	83	40	78	33	80	37	92	48	99	75	97	55	96	61	94	46	92	59
9....	71	40	84	41	85	44	94	56	78	32	84	35	79	32	85	55	92	45	99	66	99	52	98	65	93	47	92	61
10....	69	31	89	49	88	47	95	60	81	39	85	40	88	37	81	52	97	47	100	63	100	54	96	61	96	45	95	62
11....	74	38	86	53	88	50	94	66	82	36	85	45	80	37	85	56	95	58	104	73	99	54	102	62	95	51	91	62
12....	74	37	82	47	84	62	90	65	79	38	74	50	71	46	80	51	85	57	101	71	95	63	96	68	93	69	90	61
13....	70	40	84	38	85	58	88	63	80	40	81	41	80	36	82	50	80	49	96	73	89	62	86	68	95	56	84	62
14....	74	43	84	41	81	52	85	63	73	53	78	52	75	53	76	50	83	47	92	71	95	60	93	66	95	56	85	61
15....	80	41	91	51	83	50	90	60	78	57	80	46	77	41	81	52	90	53	98	64	95	56	100	64	93	62	85	58
16....	81	43	88	54	81	51	93	64	75	56	81	45	82	38	86	51	96	49	100	71	99	63	103	61	95	60	82	58
17....	81	42	71	46	87	52	95	65	79	50	85	40	83	40	82	51	97	48	104	69	102	58	101	71	97	64	86	57
18....	73	42	85	49	84	57	92	67	83	44	85	47	81	40	81	56	95	60	99	78	97	67	83	65	94	61	85	61
19....	64	52	88	58	79	58	79	63	80	47	77	56	76	50	85	55	82	58	94	75	95	72	93	65	92	63	81	59
20....	72	57	90	50	86	54	90	60	78	53	88	45	78	51	81	52	88	55	99	67	96	60	98	66	95	62	83	61
21....	78	47	85	53	81	51	94	64	84	60	85	45	82	40	81	51	94	54	101	67	99	58	98	68	92	59	82	60
22....	78	43	86	42	75	57	85	69	83	68	80	57	80	63	80	51	90	52	98	76	95	69	96	69	84	60	74	59
23....	75	39	88	54	79	55	90	64	82	60	81	47	79	49	76	50	91	53	97	74	97	67	95	51	85	60	74	52
24....	80	40	87	42	76	57	94	66	76	45	84	48	82	43	82	51	92	47	100	73	98	61	97	61	84	62	78	51
25....	81	41	89	46	78	55	77	66	75	49	75	52	76	47	81	52	84	58	91	76	86	69	84	65	89	59	78	57
26....	82	45	83	49	79	55	89	62	77	43	78	49	78	51	79	50	88	58	93	67	94	61	93	66	88	58	77	55
27....	81	43	87	56	76	50	82	62	70	45	74	50	77	51	78	52	88	60	95	66	90	63	95	64	88	55	81	52
28....	82	42	91	48	85	49	88	60	78	43	78	45	78	45	79	51	89	54	94	66	95	59	92	66	93	57	82	62
29....	81	45	92	53	83	58	87	65	75	42	75	57	81	42	78	56	88	60	97	69	95	63	81	65	93	62	83	59
30....	75	52	84	52	82	54	85	65	78	51	78	52	78	50	75	51	89	60	98	70	92	63	80	61	92	61	83	57
31....	76	50	88	54	83	52	87	63	76	47	75	52	77	48	79	52	89	62	95	74	93	60	90	61	92	64	84	58
Mns..	74.5	42.5	84.5	47.5	80.5	50.7	87.5	61.9	77.4	44.9	78.1	46.0	76.9	42.3	80.1	47.5	88.5	51.9	96.3	68.5	93.8	60.3	89.4	62.4	90.0	55.9	83.6	57.7

Date.	Arizona.																				Logan, Nev.	
	Bisbee.		Flagstaff.		Fort Apache.§§		Grand Canyon.§§		Parker.		Phoenix.		Prescott.		St. Michaels.		Tucson.		Yuma.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	88	61	72	41	87	51	74	35	100	72	101	73	81	43	79	45	99	67	100	71	95	58
2	83	64	72	42	87	48	76	37	93	76	100	69	79	43	79	49	98	64	95	65	89	60
3	81	64	62	49	82	46	79	36	88	72	90	70	69	34	75	55	92	67	87	65	85	65
4	79	66	66	32	78	45	80	39	97	70	90	63	77	40	69	44	90	.....	96	61	90	55
5	84	53	75	32	87	44	80	38	103	65	100	63	85	43	81	39	97	54	104	64	94	58
6	89	62	79	38	92	49	81	40	108	69	103	67	87	49	86	42	102	62	103	67	101	60
7	93	64	80	42	93	52	82	41	108	65	101	71	87	48	86	52	105	63	105	66	100	61
8	92	65	82	43	94	50	83	42	106	69	103	70	88	46	87	50	105	63	108	68	102	61
9	93	69	82	41	94	54	86	48	105	65	105	72	89	50	89	49	102	68	108	72	105	64
10	95	68	82	48	99	58	85	53	113	68	108	76	93	54	88	51	105	71	109	72	104	69
11	94	71	85	44	98	63	78	53	111	75	108	82	90	54	90	53	105	80	110	77	105	76
12	86	62	77	50	95	59	79	54	92	78	96	78	84	61	88	63	97	76	93	79	102	66
13	77	59	67	54	81	59	83	55	98	75	95	71	78	59	79	56	87	67	100	75	94	70
14	79	61	75	46	81	58	81	55	100	75	98	72	83	51	80	54	92	69	100	73	99	66
15	86	60	82	47	92	57	80	54	105	78	104	74	88	53	85	52	100	70	110	75	104	65
16	84	60	82	54	87	58	81	54	108	75	103	82	90	61	86	52	101	71	108	84	113	67
17	85	60	78	51	89	59	81	53	103	78	100	70	81	59	90	51	98	68	100	78	104	79
18	76	62	78	52	90	57	80	54	102	78	98	70	83	57	88	53	99	73	106	80	92	71
19	82	61	74	53	85	61	76	49	105	78	99	79	81	61	81	57	93	68	105	80	99	67
20	78	64	76	49	88	58	70	49	110	79	104	75	84	56	84	55	96	73	108	77	99	71
21	78	62	75	54	83	60	78	47	106	76	98	77	83	64	79	54	92	72	100	80	104	69
22	69	61	72	58	70	61	78	50	106	76	87	77	79	61	73	60	81	69	106	78	102	63
23	72	60	77	52	82	59	75	50	103	76	99	76	82	61	80	57	89	70	101	81	99	62
24	71	60	73	54	77	57	64	48	103	75	82	71	79	58	76	55	79	67	103	77	100	65
25	72	61	67	54	80	56	62	53	101	78	90	72	73	58	81	51	82	69	101	78	93	76
26	77	58	65	53	80	54	60	50	98	72	89	74	69	57	81	55	88	70	102	77	96	68
27	81	58	68	53	83	54	75	52	102	78	93	73	71	57	79	48	91	68	105	76	99	71
28	77	58	70	50	86	58	70	58	100	78	96	77	76	56	83	52	90	68	98	83	98	76
29	78	58	67	53	85	58	60	54	100	78	96	76	79	57	83	58	91	71	102	78	90	71
30	77	58	70	52	85	54	65	54	98	78	93	71	76	57	84	54	91	68	104	78	91	72
31	82	58	73	46	86	55	.....	50	103	78	99	76	79	54	82	52	95	69	106	78	97	69
Mns.	81.9	61.6	74.3	48.0	86.3	55.2	76.1[a]	48.5	102.4	74.3	97.7	73.1	81.4	53.6	82.3	52.2	94.6	68.5[a]	102.9	74.6	98.2	66.8

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum tempearture then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL SUMMARY.

July was a remarkably cool month in all parts of the district. Frosts occurred in the mountain districts of Utah, doing some damage to crops. In the Utah area the temperature for the month averaged lower than that of any previous July of record, except 1902. The precipitation averaged above normal. There was an unusual number of heavy thunderstorms, which caused some loss of life and property damage.

The average number of rainy days was 6, clear days 14, partly cloudy days 9, and cloudy days 8.

TEMPERATURE.

The temperature for the month averaged 67.6° for the district as a whole, or 3.8° below normal. The highest local means occurred at the lower stations west of the Wasatch Mountains, and the lowest in the Wyoming area and at the elevated stations in the Utah and California areas.

The local mean temperatures ranged from 80.2° at Lemay, Utah, to 54.1° at Truckee, Cal. Of those stations having records of 10 years or more, only three reported monthly mean temperatures above normal; the remainder were below normal. The greatest minus departure was 12.6° at Beowawe, Nev.

The month began moderately cool, and the lowest temperatures were generally recorded from the 1st to the 5th. After the 5th warmer weather set in, but at no time during the month were the afternoon temperatures unusually high. The highest temperatures occurred about the 17th as a rule.

The following were the highest temperatures that occurred in the various areas of the several States of this district: 88° at Cokeville, Wyo., on the 25th and at Border, Wyo., on the 24th and other dates; 93° at Weston, Idaho, on the 28th; 104° at Low, Utah, on the 17th; 95° at Silver Lake, Oreg., on the 16th; 92° at Truckee, Cal., on the 16th; and 106° at Carlin, Nev., on the 11th and other dates.

Freezing temperatures occurred in nearly every State having areas in this district. The lowest temperature for the district was 25° at Geyser, Nev., on the 4th. In the other States the following low temperatures were registered: 31° at Cokeville, Wyo., on the 5th; 34° at Paris, Idaho, on the 11th; 30° at Pinto, Utah, on the 4th and 5th and at Woodruff, Utah, on the 16th and 24th; 28° at Cliff, Oreg., on the 3d; and 26° at both Truckee and Tahoe, Cal., on the 1st.

PRECIPITATION.

The precipitation for the district averaged 0.98 inch, which is 0.55 inch above the normal. As is usual in summer, the distribution of moisture was quite uneven, although good amounts fell in most places. The largest amounts, as a rule, fell in the northeastern portion of the district, while at Truckee, Cal., no rain fell. The largest amount recorded was 3.53 inches at Randolph, Utah, concerning which the observer at that place wrote:

> The greatest rainfall ever recorded at Randolph fell during the storm of July 31 and August 1, when over 3 inches was measured, 2.26 inches of which fell on the last day of July. I have never seen its equal and I have been in the mountains for 40 years. The storm did a great deal of damage to crops, roads, and ditches. The thunder and lightning were very heavy, burning out telephones and damaging the lines.

Of those stations having records of more than 10 years, most of them reported amounts above the normal. The month was remarkable not only for the excessive amounts recorded, breaking all previous records, but the rates of rainfall exceeded that of most former years in many places.

Precipitation was well distributed throughout the month. In all States having areas in this district, except Oregon and California, the rain fell in four quite distinct periods: 1st–4th, 11th–14th, 17th–21st, and 25th–31st. The heaviest rains fell during the last two periods, and were so very unusual that short accounts are given below.

STORM OF JULY 19, 1912, SALT LAKE CITY, UTAH.

The heaviest July rain on record at Salt Lake City fell on July 19, when a total of 1.10 inches was measured, which is not only the largest 24-hour amount, but is also larger than any monthly amount for July on record since 1874 with the exception of four years.

This storm, like most summer showers, was local in its intensity, heavy rain having been reported not farther than 20 miles away from the city. The weather chart of the morning of the 19th showed a storm area lying over the northern Rocky Mountain region, but exhibiting no particular intensity. The barometer began to rise quite suddenly at 10 a. m., when the storm broke, but the rise was less than one-tenth inch. The temperature fell from 72° to about 60° during the same time.

This storm caused no serious damage, although the street-car traffic was discontinued for a few hours on one line owing to the large quantity of sand washed on the track. Damage was done to lawns by the flood water

washing sand and débris over them in some parts of the city, and a few cellars were flooded.

STORM AT MAZUMA, NEV.

By H. F. ALPS, Section Director.

One of the most disastrous floods ever known in Nevada occurred in the Seven Troughs and Mazuma mining districts about 5 p. m., July 18, washing away all the frail buildings at Mazuma and killing nine persons, as well as seriously injuring several others. Water to a depth of 15 to 20 feet rushed down the canyon upon the mining camp at Mazuma without warning, and carried the wreckage of frame buildings to the flat below, a distance of over a mile.

The canyon is wide at Seven Troughs, and damage there was confined to the loss of a few buildings in the business portion. The water struck the cyanide plant of the Coalition Mining Co. and destroyed the building, taking the large concrete vault down the canyon and breaking it into fragments.

Mazuma is about 2 miles below Seven Troughs in a narrow canyon with precipitous sides. Here the flood waters left only a hotel and a store.

The flood came without warning, as it was not raining at the camps at the time, although a light sprinkle had fallen a few minutes before. The basin in the mountains where the heavy precipitation occurred covers an area of about 4 square miles. The heavy downpour was seen by two mining engineers who were observing the thunderstorm from the Coalition office at Seven Troughs. When the danger of the flood was realized, they endeavored to notify Mazuma, but the wires had been put out of service by lightning. Had it been possible to give warning of the flood a few minutes before it reached Mazuma there would have been no loss of life, as a climb of a few rods up the sides of the canyon would have been sufficient to place the people above the crest of the water. Three small canyons unite with the Seven Troughs canyon, and when heavy thunderstorms occur in the catch-basins of these canyons, the conditions are very favorable for floods at Mazuma where the canyon is narrow.

RECENT STORMS AT MURRAY, UTAH.

By R. C. TOWLER.

The rains at Murray, Utah, during the latter part of July were unusually heavy for this month. Early in July but little rain fell, but from July 18 until the close of the month storms were frequent and heavy.

Rain on July 19 was especially heavy between the hours of 10 a. m. and noon, followed by a more steady fall until 3 p. m., amounting to something over 1 inch.

On July 28 another heavy storm occurred between 4 and 6 p. m., and still another on the evening of July 31, accompanied by considerable thunder and lightning.

The effect of the storms in general was good for beets, corn, tomatoes, alfalfa, potatoes, and orchards. Some damage was done, however, in the lower bottoms, to grain fields, many of which, ready for harvest, were laid flat. The rains in the nearby canyons was heavy and the flow of the streams from them was thereby strengthened, so that the farmers in this vicinity are fearing no shortage of water for irrigation during the rest of the season.

THE RELATION BETWEEN LIGHT PRECIPITATION AND "ALKALI."

By R. A. HART, United States Drainage Engineer.

The baneful effects of so-called "alkali" upon agriculture and horticulture in the arid section of the United States have become so widespread and intense as to present a serious problem in the future development of the West. Confined at first to recognized deserts, or to minor spots which occasioned indifferent wonder, rather than real interest, accumulation of alkaline salts are now becoming so general throughout the irrigated valleys as to cause alarm which is, indeed, well founded.

It is a fact that wherever irrigation has been practiced for any considerable length of time, lands formerly highly productive are now showing injury to a greater or less extent. In some instances there is merely a decrease in the general crop returns, or yields are spotted, with portions of a given tract producing as well as ever, while other portions are practically barren; but in many instances whole farms and series of farms have become unproductive and have been abandoned. Broadly speaking, there is not a valley in the West in which the injury has not been felt, and in some of these a large portion of the lands formerly cultivated are now idle or used only for wild pasture. In nearly every case, the accumulation of an excess of alkaline salts in the surface soil played an important part in the destruction. The fact that such salts were responsible for the injury wrought has nearly always been recognized by agriculturists, but they have rarely stopped to consider why this should be so, or what means might be taken to prevent injury, or to reclaim injured lands. As a result abandonment took place and new tracts were put under cultivation. This method served while there was an abundance of raw land to be had, although the cost of taking up new land was often higher than the reclamation of the old would have been, but these new lands were, in turn, subject to the same difficulty, so that now, with the opportunity for expansion practically gone, it is necessary that the second reclamation of the desert be effected, and such work in that direction is now being prosecuted. Were such reclamation not possible, permanent agriculture in a major portion of the irrigated region would be out of the question, so that this work becomes an important factor in the advancement of that region.

Water plays an important rôle in the transformation which has been noted, and it is interesting to make a study of its connection, both as rainfall and as irrigation water. It seems to be the popular notion that the alkaline salts are inherently associated only with arid soils, but this is a misconception. As a matter of fact alkaline salts are products of rock materials which, in the early stages of the earth's history, were rather uniformly distributed throughout the crust. The disassociation of the rock material was brought about by the action of heat, cold, ice, water, air, wind, vegetation, and numerous gases and solutions, and the alkaline salts were liberated. Being soluble in water they were readily transported about by its movement with the result that, as time wore on, soils in regions of heavy rainfall were washed almost free by a leaching action, and the salts found their way to the sea, rendering it saline. In the arid section, on the other hand, although the elements were active in disassociating the rock material, there was

so little rainfall that the transportation was extremely limited and as a result the salts were deposited in the soils of the valleys, or in extreme cases in basins or lakes having no outlet. Thus the valley soils came to have an excess of alkaline salts so that only the hardier plants may live, while the basins and sinks become depositories for large accumulations of salts and the lakes become very saline, indeed. The Great Salt Lake, whose waters are seven times as salty as the sea, is a good example of this fact.

The precipitation, while insufficient to sweeten the valley soils, is generally copious enough to leach out the salts in the immediate surface and carry them downward by percolation to such a depth that sagebrush, wild grasses, etc., may thrive to a limited extent. Evaporation in the arid section is so high, however, that there is very little percolation, with the result that the ground-water table was usually found at a great depth when examinations were first made. The downward movement of the percolating water is very slow, since the soils have poor natural drainage and, owing to the lack of vegetation, few noncapillary spaces have been formed. Then, too, the presence of more pervious strata causes the lateral movement of water.

The chief element lacking, in the successful cultivation of the soils of the arid regions, is water, and this may usually be supplied artificially by irrigation. Most of the plant foods are formed from salts having many characteristics in common with the harmful salts and are released from the rock material and transported in much the same way, so that the arid soils are inherently rich in such foods, and there is besides a continual supply which almost makes up for that used in plant production, and which renders such soils almost permanently fertile.

It is practically impossible to supply just the right amount of water in irrigating, so it is both necessary and advisable to use a slight excess. The natural tendency, born of a fear of drought and the human desire to take all that may be had, leads, however, to the use of a great excess which not only has the direct result of decreasing the yield, but as we shall see, has the indirect result of actually eliminating production altogether and rendering the land useless.

A portion of the excess water is lost by evaporation and, unless irrigation is carefully practiced, by actual surface waste. The remainder of the excess moves downward through the soil by percolation, and it is this movement which leaches out the alkaline salts from the root zone of the soil and makes agriculture possible. But it is this percolating excess which, if allowed to go on, will eventually result in destruction. This is occasioned by an actual filling up of the ground water reservoir and a consequent rise of the water table.

It is a well-known fact that soils are saturated several feet above the free water level, due to the action of capillary attraction, and it is found that the alkaline solution is concentrated near the upper limit of saturation, so that in the upward movement of the water table, the concentrated alkaline solution precedes it by a few feet. It has also been observed that pervious strata usually hold considerable amounts of salts, and these accumulations are assimilated during the upward movement. It can be readily seen, therefore, that when the ground-water table reaches a plane within the capillary distance of the ground surface, evaporation of the concentrated solution will deposit the salts at and near the surface, resulting in the death of plants.

The application of irrigation water will not now carry down the salts as in the first instance, as there is no escape for the percolating water. The result of such a treatment is merely to redissolve the salts, which are then drawn back into the soil to reappear by subsequent evaporation.

The proximity of the ground-water table is, in itself, disastrous and it is often difficult to say whether plants are killed by one or both agents, but it is known that an excess of salts is injurious and it is that phase of the question which is now under consideration.

As was pointed out in the first paragraphs, it is imperative that something be done to remedy the existing evil and to prevent future injury. It is fortunate that the remedy is simple and may be readily, and in most cases, economically applied. It is especially fortunate that both the water and the alkali injury may be cured and prevented by the same treatment. Indeed, when the water question is solved, the alkali question is solved as a matter of course.

It is necessary only to lower the ground-water table to such a depth that capillary attraction can not raise water and alkali salts near enough the surface to do damage, and to repeat the original process of leaching out the alkaline salts by the use of an excess of irrigation water, after which it is advisable to use a sane amount of irrigation water, not that there is any further fear of injury, but that there is need for the water, so worse than wasted, on other lands for the production of more crops.

Good underdrainage is the only cure for the difficulty, and its effectiveness is best demonstrated by the vast operations now being conducted. The second reclamation of the desert is now at hand, and a few years will undoubtedly see the broad expanses of overirrigated and alkaline lands transformed again into gardens and fields.

TABLE 1.—*Climatological data for July, 1912. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	10	61.2	− 0.7	86	24†	33	5	46	0.98	+ 0.58	0.50	0	2	14	9	8	w.	S. W. Condron.
Cokeville	do	6,204	2	57.1	.....	88	25†	31	5	52	1.58	.....	0.69	0	8	26	1	4	w.	E. J. Tuckett.
Evanston	do	6,860	16	60.1	− 1.6	86	17	32	5	41	1.63	+ 0.82	0.98	0	10	17	11	3	w.	Frank Tucker.
Idaho.																				
Geneva	Bear Lake	6,171	4	.....	.....	.....	.....	.....	.....	.....	2.20	.....	0.93	0	6	25	5	1	.....	F. W. Boehme.
Grace	Bannock	5,400	5	66.4	.....	92	17	39	9	49	1.05	.....	0.35	0	4	11	8	12	n.	Donald R. Shirk.
Paris	Bear Lake	5,946	17	60.6	− 2.6	87	18†	34	11	44	2.00	+ 1.27	0.50	0	12	.....	.....	.....	w.	John Norton.
Weston	Oneida	4,460	14	65.5	− 2.3	93	28	36	9	47	1.00	+ 0.39	0.50	0	4	17	3	11	s.	Wm. T. Chatterton.
Utah.																				
Alpine	Utah	4,900	13	.....	.....	.....	.....	.....	.....	.....	0.92	+ 0.27	0.42	0	3	16	10	5	.....	T. F. Carlisle.
Beaver	Beaver	6,000	8	67.1	.....	94	18	40	3†	47	2.00	.....	1.02	0	3	5	19	7	s.	E. D. Bacon.
Black Rock	Millard	4,872	8	69.4	.....	102	16	34	5	55	0.14	.....	0.14	0	1	14	11	6	.....	W. D. Livingston.
Burrville	Sevier	.....	1	60.2	.....	84	17	31	5	44	1.12	.....	0.30	0	6	.....	.....	.....	.....	F. R. Curtis.
Castle Rock	Summit	6,244	7	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.77	0	12	13	13	5	w.	David Moore.
Cedar City	Iron	5,750	7	69.7°	.....	92	17	46	4	33	0.99	.....	0.38	0	10	11	6	14	sw.	Parley Dalley.
Center	Tooele	.....	.....	69.0	.....	95	17	39	2	51	0.59	.....	0.27	0	4	16	12	3	s.	L. C. Peterson.
Clarkston	Cache	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.85	.....	0.70	0	5	18	4	9	.....	W. J. Griffiths.
Corinne	Boxelder	4,240	42	70.6	− 8.3	95	17†	44	5	46	0.93	+ 0.47	0.53	0	3	15	5	11	.....	A. C. Murphy.
Deseret	Millard	4,541	17	71.4	− 1.0	96	17	43	5	44	0.57	+ 0.33	0.40	0	4	8	5	18	s.	S. W. Western.
Erekson	Tooele	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.98	.....	0.39	0	7	.....	.....	.....	.....	N. W. Erekson.
Enterprise	Washington	4,270	6	.....	.....	.....	.....	.....	.....	.....	2.47	.....	0.90	0	5	9	1	21	.....	John Day.
Fairfield	Utah	4,866	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. Harden Ashby.
Farmington	Davis	4,267	11	71.2	− 1.3	96	21	45	5	43	1.52	+ 1.02	1.13	0	4	19	10	2	s.	Charles Boylin.
Fillmore	Millard	5,100	20	73.8	− 1.6	103	17	45	4	44	0.70	± 0.00	0.28	0	8	.....	.....	.....	.....	J. J. Starley.
Frisco	Beaver	7,318	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Essen Nordberg.
Garrison	Millard	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. M. Smith.
Government Creek	Tooele	5,277	11	69.8	− 3.4	96	17	42	4	42	1.34	+ 0.79	0.75	0	5	10	10	11	s.	Walter James.
Granger	Salt Lake	.....	.....	70.2[b]	.....	93	17	47	2	38	1.96	.....	1.38	0	6	.....	.....	.....	.....	Geo. E. Greene.
Grantsville	Tooele	.....	1	.....	.....	.....	.....	.....	.....	.....	0.49	.....	0.15	0	5	18	7	6	.....	J. C. Woodmansee.
Grouse Creek	Boxelder	.....	4	.....	.....	.....	.....	.....	.....	.....	0.47	.....	0.16	0	5	11	13	7	sw.	Philip Paskett.
Heber	Wasatch	5,593	19	63.6	− 2.5	92	18†	33	5	54	0.58	− 0.24	0.20	0	5	11	8	12	s.	John Crook.
Henefer	Summit	5,301	12	63.9	− 1.1	92	17	35	5	52	1.75	+ 0.95	0.52	0	10	11	10	10	sw.	William Brewer.
Hooper	Weber	4,436	1	.....	.....	.....	.....	.....	.....	.....	0.97	.....	0.95	0	2	.....	.....	.....	.....	T. M. Jones, jr.
Ibapah (near)	Tooele	7,500	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Lawton.
Ibex	Millard	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John J. Watson.
International	Tooele	5,370	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. S. R. Co.
Iosepa	do	.....	1	74.0	.....	99	17	45	2	44	0.78	.....	0.59	0	3	11	5	15	s.	Geo. K. Hubbell.
Joy	Juab	.....	.....	70.5	.....	99	17†	44	3	43	0.74	.....	0.40	0	.....	.....	.....	.....	.....	A. M. Laird.
Junction	Piute	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.35	0	3	16	9	6	s.	Joseph Jensen.
Kanosh	Millard	5,250	4	.....	.....	.....	.....	.....	.....	.....	0.40	.....	0.12	0	7	.....	.....	.....	.....	Geo. Crane.
Kelton	Boxelder	4,230	32	68.4	− 8.6	94	28	40	2†	43	0.50	+ 0.14	0.32	0	3	2	19	10	sw.	F. W. Klock.
Lemay	do	.....	.....	80.2	.....	98	17	57	1	25	0.42	.....	0.30	0	4	13	11	7	s.	Agent S. P. Co.
Levan	Juab	5,010	22	69.6	− 2.0	94	17	40	5	42	0.39	− 0.22	0.16	0	9	13	11	7	sw.	William Brown.
Logan	Cache	4,507	21	68.2	− 3.5	90	17†	43	4	33	1.98	+ 1.49	0.94	0	6	.....	.....	.....	.....	Utah Exp. Station.
Low	Tooele	.....	.....	76.6	.....	104	17	53	2†	42	1.30	.....	0.80	0	2	16	13	2	n.	Agent W. P. Ry. Co.
Lucin	Boxelder	4,504	5	73.8	.....	99	29	40	7	41	0.70	.....	0.70	0	1	28	2	1	.....	R. G. Crocker.
Lund	Iron	5,086	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Job. F. Hall.
Manti	Sanpete	5,575	17	65.4	− 4.6	86	10†	37	5	43	2.04	+ 1.45	0.56	0	9	6	4	21	.....	J. M. Anderson.
Maple Creek	Utah	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.21	.....	0.38	0	6	15	8	8	.....	Lewis W. Gillilan.
Marion	Summit	6,750	7	.....	.....	.....	.....	.....	.....	.....	1.32	.....	0.27	0	11	4	7	20	s.	Jas. Woolstenhulme.
Marysvale	Piute	6,076	12	65.4	− 0.4	92	17	34	5	47	0.45	− 0.53	0.16	0	10	6	12	13	s.	John W. Henry.
Meadowville	Rich	6,200	11	62.8	− 1.6	87	25†	36	15	45	1.98	+ 1.49	0.75	0	5	19	2	10	.....	J. S. Moffat.
Midlake	Boxelder	.....	1	73.7	.....	85	18	58	4	16	0.80	.....	0.50	0	4	15	5	11	e.	Agent S. P. Co.
Midvale	Salt Lake	.....	.....	71.8	.....	98	17	43	5†	47	1.76	.....	0.86	0	7	13	11	7	s.	M. J. Joy.
Milford	Beaver	4,962	4	77.2	.....	98	14†	48	5†	35	T.	.....	T.	0	0	25	0	6	.....	Agent Salt Lake Route.
Mills	Juab	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.30	0	8	.....	.....	.....	.....	Geo. McCune.
Millville	Cache	4,848	17	.....	.....	.....	.....	.....	.....	.....	1.24	+ 0.80	0.72	0	6	4	27	0	n.	Fred Yeates.
Minersville	Beaver	5,070	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Roberts, sr.
Modena	Iron	5,479	11	67.0	− 2.7	91	16	42	5	40	1.28	+ 0.02	0.53	0	4	7	10	14	w.	U. S. Weather Bureau.
Morgan	Morgan	5,068	7	67.0	.....	93	17	38	5	49	1.40	.....	0.45	0	5	.....	.....	.....	.....	E. O. Kingston.
Moroni	Sanpete	5,519	4	67.2	.....	87	10†	43	5	33	1.50	.....	0.46	0	6	6	10	15	sw.	B. F. Eliason.
Mosida	Utah	.....	.....	72.4	.....	96	10†	45	5	42	1.04	.....	0.30	0	8	19	10	2	.....	R. P. Curtis.
Mount Nebo	do	4,650	9	73.7	.....	96	10†	46	5	40	0.65	.....	0.30	0	5	17	9	5	s.	D. C. Walkey.
Nephi (near)	Juab	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. Boswell.
Newcastle	Iron	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. W. Jones.
Oak City	Millard	4,900	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Nielson.
Ogden	Weber	4,310	41	69.1	− 4.8	90	11†	47	28	35	2.90	+ 2.64	2.19	0	6	15	13	3	sw.	A. Van DeGraff.
Panguitch	Garfield	.....	.....	60.6	.....	85	11†	32	5	44	1.97	.....	0.72	0	9	9	7	15	.....	John N. Henrie.
Park City	Summit	7,800	7	59.3	.....	89	6†	31	8	52	0.33	.....	0.09	0	6	18	7	6	.....	Gertrude Evans.
Park Valley	Boxelder	.....	1	.....	.....	.....	.....	.....	.....	.....	1.47	.....	0.73	0	7	14	10	7	sw.	A. O. Evans.
Parowan	Iron	5,970	21	67.0	− 4.0	91	16	42	5	38	1.46	+ 0.43	0.35	0	10	9	4	18	.....	Alex. Matheson.
Payson	Utah	4,637	8	.....	.....	.....	.....	.....	.....	.....	0.69	.....	0.19	0	8	9	16	6	nw.	D. L. Coombs.
Pelican Point	do	4,600	1	.....	.....	.....	.....	.....	.....	.....	0.98	.....	0.54	0	5	20	10	1	.....	B. M. Mendenhall.
Pine Cliff Ranch	Summit	.....	1	59.3	.....	83	17	32	4	36	0.80	.....	0.35	0	4	.....	.....	.....	.....	L. E. Leavitt.
Pinto	Washington	5,907	14	62.6[a]	− 4.0	90	16	30	4†	48	2.21	+ 1.09	0.47	0	8	10[a]	6[a]	14[a]	s.	J. H. Harrison.
Plentiful	Tooele	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.62	.....	0.49	0	2	.....	.....	.....	.....	C. L. Drumm.
Promontory	Boxelder	4,913	33	.....	.....	.....	.....	.....	.....	.....	1.00	+ 0.79	1.00	0	1	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	23	69.8	− 3.5	98	17	39	5	53	0.75	+ 0.47	0.50	0	4	7	24	0	s.	James A. Oliver.
Randolph	Rich	6,442	10	.....	.....	.....	.....	.....	.....	.....	3.53	.....	2.26	0	6	19	0	12	sw.	Wm. Rex.
Revier	Salt Lake	.....	1	.....	.....	.....	.....	.....	.....	.....	0.66	.....	0.21	0	6	.....	.....	.....	.....	E. L. Terry.
Richfield	Sevier	5,350	18	69.2	− 1.3	94	10†	40	6	52	1.06	+ 0.48	0.50	0	6	12	5	14	.....	Joseph J. Jensen.
Richmond	Cache	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.71	.....	0.79	0	9	7	17	7	s.	J. R. Thompson.
Saltair	Salt Lake	4,220	8	73.4	.....	90	21	55	5	26	0.74	.....	0.16	0	10	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	do	4,360	38	73.6	− 2.6	94	17	53	5	31	1.51	+ 0.97	1.11	0	7	12	11	8	se.	U. S. Weather Bureau.
Scipio	Millard	5,260	17	68.7	− 1.2	95	17	56	5	49	1.21	+ 0.52	0.26	0	8	11	5	15	sw.	Thos. Memmott.
Showell	Boxelder	.....	.....	65.8	.....	95	28	35	2†	54	1.19	.....	0.57	0	3	17	13	1	.....	Richard Ilgner.
Silver City	Juab	6,127	2	.....	.....	.....	.....	.....	.....	.....	0.91	.....	0.33	0	5	14	16	1	sw.	J. L. Stark.
Spanish Fork	Utah	4,585	2	72.2	.....	97	17	45	5	41	0.81	.....	0.26	0	6	10	19	2	.....	U. S. Reclamation Service.
Strawberry Tunnel, W.	do	7,650	6	60.6[a]	.....	89	10†	33	5	46	2.20	.....	0.38	0	10	10[a]	11[a]	9[a]	.....	Do.
Thistle	do	5,075	18	66.7	− 3.8	97	21	32	5	51	1.35	+ 0.76	0.40	0	5	5	17	9	s.	John Thorgierson.
Tooele	Tooele	4,900	16	70.4	− 3.0	91	28	50	2†	36	0.46	− 0.15	0.21	0	4	2	8	21	s.	E. A. Bonelli.
Utah Lake Pumping Sta	Utah	4,500	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Knight.
Vernon	Tooele	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.23	0	5	7	20	4	sw.	Glynn Bennion.

TABLE 1.—*Climatological data for July, 1912. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Continued.																				
Wendover	Tooele		1	73.3	.....	100	17	49	2	45	0.53	.....	0.50	0	3	11	17	3	se.	J. S. Cooper.
Whisky Creek	Millard		1								0.60	.....	0.40	0	2					Geo. Stevens.
Woodruff	Rich	6,500	10	56.2	− 4.6	86	25	30	16†	54	3.13	+ 2.69	1.43	0	8	11	14	6	.....	A. L. Eastman.
Oregon.																				
Burns	Harney	4,157	20																	J. C. Welcome, jr.
Cliff	Lake	4,300	4	58.5	.....	94	16†	28	3	57	0.59	.....	0.33	0	4	17	6	8	nw.	John C. Green.
Paisley	....do....	4,500	8																	E. C. Woodward.
Silver Lake	....do....	4,700	14	61.6	− 3.0	95	16	31	1	54	0.76	+ 0.26	0.21	0	6	18	10	3	n.	L. W. Charles.
California.																				
Tahoe	Placer	6,240	2	56.6	.....	86	16	26	1	47	1.30	.....	0.80	0	2	19	11	1	w.	R. M. Watson.
Truckee	Nevada	5,819	41	54.1	−11.3	92	16	26	1	50	0.00	− 0.16	0.00	0	0	29	0	2	sw.	Southern Pacific Co.
Nevada.																				
Battle Mountain	Lander	4,843	41	68.5	− 6.7	102	18†	38	2†	58	0.15	+ 0.03	0.15	0	1	20	6	5	w.	Southern Pacific Co.
Beowawe	....do....	4,905	41	64.6	−12.6	102	16	31	8†	60	.....	.....	.....	0	....	19	1	11	w.	Do.
Carlin	Elko	5,232	41	72.0[e]	+ 1.4	106[e]	11†	30[e]	7	63[e]	.....	.....	.....	0	....	....	....	....	.....	Do.
Carson Dam	Churchill	4,032	5	70.8	.....	95	16	42	4	39	0.27	.....	0.27	0	1.	17	7	7	w.	U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	4	67.1	.....	91	10†	36	4	42	1.16	.....	0.52	0	9	13	14	4	w.	J. H. Leishman.
Clover Valley	Elko	6,000	11																	I. F. Wiseman.
Columbia	Esmeralda	5,750	5	69.8	.....	96	16	40	4	40	0.39	.....	0.19	0	6	18	8	5	se.	A. Booth.
Dry Farm	Elko	5,600	0	66.4	.....	92	16	38	1†	51	1.39	.....	1.20	0	3	....	....	....	.....	Walfrid Sohlman.
Elko	....do....	5,432	41	64.9	− 6.0	95	28	35	4	51	1.25	+ 0.99	0.41	0	10	15	4	12	w.	E. J. Clark.
Ely	White Pine	6,421	21	66.6	− 0.4	90	10	37	4†	43	0.72	+ 0.19	0.20	0	8	....	....	....	s.	R. E. Middagh.
Eureka	Eureka	6,500	9	66.0	.....	90	9†	34	1†	48	3.38	.....	0.81	0	9	14	4	13	s.	Clay Simms.
Fallon	Churchill	3,965	7	69.9	.....	100	16	38	1	46	0.13	.....	0.08	0	4	23	3	5	w.	U. S. Experiment Station.
Fernley	Lyon	4,200	39	72.0	− 5.9	100	16	35	1	48	0.81	+ 0.59	0.33	0	5	18	11	2	w.	Mrs. G. A. Steele.
Gardnerville	Douglas	4,830	12	61.1[b]	− 7.0	87[e]	27	32[j]	1	41[j]	0.38	+ 0.27	0.22	0	3	....	....	....	w.	W. M. Maule.
Geyser	Lincoln		8	59.3	.....	98	28	25	4	69	0.21	.....	.....	0	5	5	22	4	s.	Mrs. J. F. Wambolt.
Golconda	Humboldt	4,697	33	70.2	− 6.1	95	17†	39	1	44	0.08	+ 0.02	0.08	0	1	12	11	8	w.	Southern Pacific Co.
Halleck	Elko	5,631	19	64.2	− 5.5	98	17	30	3	59	1.10	+ 0.89	1.00	0	2	23	4	4	.....	Do.
Hawthorne	Mineral	4,569	18	72.9	− 1.7	98	16	44	1†	41	0.23	+ 0.08	0.14	0	3	18	11	2	sw.	G. B. Stannard.
Jean	Clark	2,074	4	76.2	.....	105	10	46	6	53	0.46	.....	0.15	0	4	22	7	2	nw.	Salt Lake Route.
Lahontan	Churchill		0	75.5	.....	100	16	48	2†	36	0.27	.....	0.20	0	4	18	12	1	w.	U. S. Reclamation Service.
Lewers Ranch	Washoe	5,500	24																	Ross Lewers.
Lovelocks	Humboldt	3,977	18	68.9	− 7.6	100	16	36	1†	49	0.36	+ 0.26	0.23	0	3	16	9	6	s.	A. P. Tilford.
McDermit	....do....	4,700	23	67.5	− 6.2	95	28	34	1	41	0.15	− 0.09	0.07	0	3	15	8	8	w.	Scott Sterling.
Millett	Nye		4	67.0[d]	.....	93[d]	16	40[d]	5†	49[d]	0.88	.....	0.37	0	3	....	....	....	s.	Fred J. Jones.
Mina	Mineral	4,600	5	74.1	.....	103	16	44	4	46	T.	.....	T.	0	0	23	0	8	.....	Southern Pacific Co.
Potts	Nye	6,990	19	62.4	− 8.2	93	27	31	3	52	0.85	+ 0.26	0.30	0	5	10	2	19	s.	Miss Mamie Potts.
Quinn River Ranch	Humboldt	4,850	10	67.4[d]	− 1.6	100[d]	28	31[d]	4	60[d]	0.05	− 0.13	0.05	0	1	....	....	....	n.	F. M. Payne.
Rebel Creek	....do....		0	67.3	.....	99	28	32	1	54	0.54	.....	0.30	0	3	16	7	8	sw.	E. J. Hyatt.
Reno	Washoe	4,532	41	67.8	+ 0.3	97	16	35	1	42	0.58	+ 0.44	0.48	0	4	20	8	3	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	5	71.8	.....	98	28	39	1	40	0.25	.....	0.19	0	2	17	8	6	w.	U. S. Reclamation Service.
Tecoma	Elko	4,812	34	65.4	− 8.8	103	29	28	2†	63	0.25	+ 0.07	0.25	0	3	10	10	11	se.	Southern Pacific Co.
Tonopah	Nye	6,090	7	69.2	.....	91	16	41	3	30	1.34	.....	0.81	0	5	14	10	7	w.	U. S. Weather Bureau.
Wells	Elko	5,631	40	69.4	− 1.7	97	17	30	16	65	1.26	+ 0.88	0.90	0	2	....	....	....	.....	Southern Pacific Co.
Winnemucca	Humboldt	4,432	33	69.0	− 2.6	97	28	37	4	50	0.52	+ 0.35	0.35	0	4	19	4	8	sw.	U. S. Wather Bureau.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 10, Great Basin.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Border	Bear				T.									T.							.48										.50	T.	0.98
Cokeville	do	.04		.08	.02		T.			T.									.14	.35	.12	.14								T.	T.	.69	1.58
Evanston	do			.13	.03								.03	.02						.98	.08									.05	.06	.19	1.63
Idaho.																																	
Geneva	Bear													.02					.42	.58										.10	.15	.93	2.20
Grace	do				.10														.30	.35												.30	1.05
Paris	do																	.50	.18	.12	.15				.20	.16	.11	.15	.14	.10	.12	.07	2.00
Weston	do																			.50	.10	.20										.20	1.00
Utah.																																	
Alpine	G. S. Lake			.22																										.42		.28	0.92
Beaver	Sevier Lake				T.						T.	T.	T.	T.			T.		T.		T.			T.					T.	.83	1.02	.15	2.00
Black Rock	do																		T.											T.		.14	0.14
Burrville	do																		.30		.07					.20		.10	.25	.20			1.12
Castle Rock	G. S. Lake	.02	.03	.14	.05							.03		.02					.35	.77	.10	.05									.06	.25	1.87
Cedar City	Desert											.01		.05	.01			.10	.28							.02	.06			.38	.03	.05	0.99
Center	do			T.	.26							.02	T.	.04													T.		T.	T.	T.	.27	0.59
Clarkston	G. S. Lake				.15															.70	.55	.10										.35	1.85
Corinne	do				T.															.20											.20	.53	0.93
Deseret	Sevier Lake													.08				T.												.40	.05	.04	0.57
Erekson	Desert				.35								.08	.04	.02					.04										.06	*	.39	0.98
Enterprise	G. S. Lake													T.					.70								.40	.25		.90	T.	.22	2.47
Fairfield	do																																
Farmington	do			T.	T.									T.						T.	.07	.20									1.13	.12	1.52
Fillmore	Sevier Lake			T.	T.							.05	.02					T.		.01	.02								.13	.02	.28	.17	0.70
Frisco	Desert																																
Garrison	do																																
Government Creek	do			.13				T.					.12	T.													.26		T.	.08	T.	.75	1.34
Granger	do			T.	.05															1.38	.25								.09	.10	.09		1.96
Grantsville	G. S. Lake				.08															.09	.02										.15	.15	0.49
Grouse Creek	Desert		T.	.10															.04	.07								T.			.10	.16	0.47
Heber	G. S. Lake				*	.05	T.						*	.05			T.	*	.18	.10								T.			*	.20	0.58
Henefer	do			.10	.08			T.					.02	.02					.25	.26	.10						T.	T.	T.	.52	.10	.30	1.75
Hooper	do																							.02								.95	0.97
Ibapah (near)	Desert																																
Ibex	do																																
International	G. S. Lake																																
Iosepa	Desert			T.									T.	T.					.59										T.		.09	.10	0.78
Joy	do																																†0.74
Junction	Sevier Lake											T.	T.	T.	T.								T.				.06	.09	T.	.35			0.50
Kanosh	do				.03								.12	.04													.01		.03	.05		.12	0.40
Kelton	G. S. Lake																				.32						T.			.10	.08	T.	0.50
Lemay	Desert						.02													.05	.05											.30	0.42
Levan	Sevier Lake				.16							T.	.02	.03	.01				.05			T.					.01		T.	.02	.05	.04	0.39
Logan	G. S. Lake			.11					T.				.19						.26	.45											.03	.94	1.98
Low	do																														.50	.80	1.30
Lucin	Desert						T.																									.70	0.70
Lund	do																																
Manti	Sevier Lake				.11							T.	.10	.21	.18			T.	.22			.19					T.		.28		.19	.56	2.04
Maple Creek	G. S. Lake	T.	T.	.18	T.							T.	.19	T.					.12	.06		T.								T.	.38	.28	1.21
Marion	do			.18	.25							T.	.08	.15	.02				.07	.19	.06								.03	.02		.27	1.32
Marysville	Sevier Lake		T.	.01	.02							T.	T.	.06	.02			T.	T.							.05	.05		.04	.16	.01	.03	0.45
Meadowville	G. S. Lake			.45	T.									T.					T.	.65										.08	.05	.75	1.98
Midlake	do													T.					.10		.50									.10	T.	.10	0.80
Midvale	do			.30									.01						.04	.86										.09	.08	.38	1.76
Milford	Sevier Lake											T.																					T.
Millville	G. S. Lake			.03	.10		T.								T.				.03	.30	.06										.72	1.24
Mills					.17							T.	T.	T.	.07			T.	.01	T.	.01	T.					.03			.18	.02	.30	0.79
Minersville	Sevier Lake																																
Modena	Desert			T.	T.							T.	T.	.23	T.				.53								T.	T.	T.	.30	T.	.22	1.28
Morgan	G. S. Lake				.38														.32	.45	.15											.10	1.40
Moroni	Sevier Lake	T.	T.	T.	T.								T.	.41	.16				.12	T.	T.	T.					T.			.21	.14	.46	1.50
Mosida	G. S. Lake				.03							.10		07							.04								.04	.30	.18	.28	1.04
Mount Nebo	do				.05							T.								T.									.05	.30	.03	.22	0.65
Nephi (near)	do																																
Newcastle	Desert																																
Oak City	Sevier Lake																																
Ogden	G. S. Lake							.17											.08	2.11	.04								.19			.31	2.93
Panguitch	Desert				.15								.36	.23	.18				.72	.06							.12	.09	.06				1.90
Park City	G. S. Lake												.04	.01										.08	.04					.09	.07		0.37
Park Valley	Desert				.09		.05							.03							.27	.05									.25	.73	1.47
Parowan	do				.03								.35	.10				.17	.18		T.					T.	.02	.05	.21	.27	.08		1.46
Payson	G. S. Lake			.01	.17								.01	.10						.07									.19	.01		.13	0.69
Pelican Point	do				.05								.03							.31										.54		.05	0.98
Pine Cliff Ranch	do													.25						.35					.06							.14	0.80
Pinto	Desert													.05	.45				.47							T.	.15	.35	.31	T.	.03	.40	2.21
Plentiful	G. S. Lake																													.13		.49	0.62
Promontory	do																															1.00	1.00
Provo	do			T.									.08	T.	.12				T.										T.	.05	T.	.50	0.75
Randolph	do			.37	.15														.34	.36	T.	.05									2.26	3.53
Revier	do			.05	.12									T.					.21	.06									T.	.15	.07		0.66
Richfield	Sevier Lake			T.								T.	.50		T.				.10		.10						.12		T.	.14		.10	1.06
Richmond	G. S. Lake			.12	.01		.03		T.				T.	.04					.10	.79	.13										.12	.37	1.71
Saltair	do			.01	.13									.02					.13	.05		.04							.02	.04	.14	.16	0.74
Salt Lake City	do	T.		T.	.05									T.					.02	1.10	.01								T.	.06	.08	.19	1.51
Scipio	Desert				.11								.20			.04			T.			.13				T.	T.	T.	.18	.18	.11	.26	1.21
Showell	do													.22																	.40	.57	1.19
Silver City	do				.09																.10					.15					.24	.33	0.91
Spanish Fork	G. S. Lake			.01	.26									T.					.02	.15		T.								T.	.24	.13	0.81
Strawberry tunnel (West).	do			.17	.18								.18	.38	T.				.35								.24		.16	.38	.05	.11	2.20
Thistle	do			T.	T.									T.	.30				.40	.20	T.						T.			.15	T.	.30	1.35
Tooele	do				.21								T.	T.						.04	T.										.07		.14	0.46
Utak Lake Pumping Station.	do																																
Vernon	Desert			T.	.23							T.	.06	.02	T.			T.	T.	T.	T.						T.		T.	T.	.05	.03	0.39
Wendover	do																					.03										.50	0.53
Whisky Creek	do																										.20				.40		0.60
Winder	Sevier Lake																																
Woodruff	G. S. Lake			.10	.15														.30	.35	.25	.45								.10	1.43		3.13

TABLE 2.—*Daily precipitation for July, 1912. District No. 10*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Oregon.																																	
Ana River	SE. drainage		.06																.07	.09			.04							T.			0.26
Bear Valley	do		.14	.18																	T.												0.32
Burns	do													.27							T.												0.27
Burns Mill	do																	T.	.88	.06	.04								T.	T.	.03	1.22
Christmas Lake	do		.21																	.33										.05	.13	0.59
Cliff	do	.08																															
Diamond	do																		.07	.20	.50									.30		1.42
Embody	do		.35															T.	T.	.12	T.	.18								T.	.03	T.	0.63
Fort Rock	do	.30																															
Paisley	do																				.30		.40								.09	0.79
Seneca	do	T.																	.21	.08		.11	.05								.10	0.76
Silver Lake	do		.21																	.28			.29							.01	.09	0.92
Valley Falls	do	.15																T.	.10													
California.																																	
Bijou	Truckee																															T.	
Boca	do			T.													T.	T.														0.83	
Bridgeport	East Walker													.05				.55	.23														
Deer Park	Truckee																																1.42
Glen Alpine	do			.02									.07	.38			*	*	.95														0.41
Hobart Mills	do			.18									.10		.13				T.										T.				0.60
Lundy	East Walker			T.														.60															
McKinney	Truckee																								T.								1.19
Markleeville	East Carson			.45									.13	.04	T.		.27	.30															0.61
Shields Ranch	East Walker			.19									T.	.21	T.		T.	.19	.02													.02	.03	1.35
Silver Creek	East Carson			.20												.10	.20	.30	.50														.80	1.30
Tahoe	Truckee																.50																1.36
Tallac	do			.12									.50	.12			T.	.50	.12	T.													0.00
Truckee	do																																
Woodfords	West Carson																																
Nevada.																																	
Arthur	Humboldt			T.															.40	1.00										.10	.70	.40	2.60
Battle Mountain	do																		.15		T.										T.	0.15	
Beowawe	do																																
Bishop	do																	.34													.30	0.64	
Carlin	do																																
Carson Dam	Carson													T.				T.	.27														0.27
Cherry Creek	Humboldt											T.	.01	T.	T.			.01	.52	.14	.07								.03	.08	.02	.28	1.16
Clover Valley	do																																
Columbia	Desert													T.				.04	.19	.03										.10	.02	.01	0.39
Dry Farm	Humboldt			.05															1.20	.14													1.39
Elko	do			.29							T.		*	.17				T.	.02	.01	.15								.02	.02	.41	.16	1.25
Ely	do													*	.03			.15	.20										.10	.02	.17	.05	0.72
Eureka	do			.04										.19	.10			.12	.62	.40										.75	.35	.81	3.38
Fallon	Carson			.01										.01				T.	.03	.08										T.		T.	0.13
Fernley	Truckee			T.										.05	.05			.10	.33	.28													0.81
Gardnerville	Carson			.22									T.	.11				.05	T.														0.38
Gerlach	Humboldt			.01														.25	.12														0.38
Geyser	do																										*	*	*	*	.21		0.21
Golconda	do			.08																													0.08
Halleck	do																			1.00		.10											1.10
Hawthorne	Desert			.05														.14	.04														0.23
Jean	do										T.		.15					.06	.15											.10			0.46
Lahontan	Carson													.01				.04	.20											T.	T.	.02	0.27
Lewers Ranch	Truckee																																
Lovelocks	Humboldt			.08														.23		.05													0.36
McDermit	do			T.																	.03									.05	.07	0.15
Massacre Lakes	Desert		.03															T.	T.	T.										.07	.08	0.18
Mill City	Humboldt																													.25		0.25
Millett	Reese													T.				T.	.37		.20										.31	0.88
Mina	Desert																		T.													T.	
North Fork	Humboldt																	T.	T.		.32									T.	T.	.25	0.57
Potts	Reese																		.25		.05									.15	.10	.30	0.85
Quinn River Ranch	Humboldt																		.05														0.05
Rebel Creek	do			.15														T.	T.	.30	T.									T.	.09	T.	0.54
Reno	Truckee			.01									T.	.01				.08	.48											T.	T.	T.	0.58
Skelton	Humboldt			.31															.94	.27											.05		1.57
Smith	West Walker			.30									.04	.08				.19	.04											.07	T.	.05	0.77
Soda Lake	Carson													.06				T.	.19	T.													0.25
Spooners Ranch	Truckee											.12		T.		T.		T.					T.					T.					0.12
Sweetwater	East Walker																																
Tecoma	Humboldt			.02															.01	T.	.22												0.25
Tonopah	Desert			T.										T.				.02	.80	.08	T.									T.	.06	.38	1.34
Wells	Humboldt																		T.	.36												.90	1.26
Willow Point	Lt. Humb't.		*	.04																											.20		0.24
Winnemucca	Humboldt			.11									T.	T.				T.	.01	T.											.05	.35	0.52

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 10, Great Basin.*

Date.	Wyoming.				Weston, Idaho.		Utah.																			
	Border.		Evanston.				Corinne.		Government Creek.		Joy.		Marysvale.		Meadowville.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	74	37	72	44	76	44	82	53	76	54	70	56	80	41	77	43	77	44	4	53	79	48	86	49	77	58
2	72	38	70	37	74	38	79	48	75	43	64	49	75	44	72	40	71	51	83	56	75	53	82	42	78	54
3	66	46	64	45	72	49	75	56	71	48	53	44	64	47	67	45	64	48	84	56	67	48	77	54	74	58
4	60	40	61	35	71	50	70	55	71	42	56	49	64	41	66	43	72	43	86	57	69	46	72	42	72	53
5	74	33	69	32	80	45	82	44	83	48	70	50	81	34	75	41	82	42	84	54	80	42	86	39	84	53
6	82	35	75	35	85	38	90	50	88	57	77	48	86	41	82	40	83	47	80	53	85	48	90	44	87	62
7	77	42	74	40	81	45	84	55	88	51	93	50	88	52	78	45	84	50	80	52	86	50	93	46	84	60
8	71	40	72	35	77	44	88	55	84	45	90	49	85	50	77	41	84	53	82	53	85	53	91	47	78	58
9	81	36	74	44	80	36	83	48	87	45	87	46	83	46	78	40	88	52	85	56	86	49	87	47	82	60
10	81	36	78	41	88	41	86	52	92	50	90	50	90	47	83	41	86	51	87	59	85	56	96	43	88	61
11	79	44	77	58	82	53	89	56	89	61	93	51	87	54	85	51	89	56	90	58	88	57	96	56	88	69
12	78	50	79	52	84	55	90	53	88	58	92	64	86	48	82	59	85	53	90	60	80	54	86	57	87	68
13	79	40	75	46	80	48	85	55	77	58	80	74	76	58	78	45	77	55	87	58	74	56	77	53	75	65
14	79	44	75	45	82	56	88	55	83	60	86	54	78	48	76	54	83	56	88	58	82	54	86	56	82	66
15	80	34	76	35	84	40	85	48	86	59	93	56	84	44	81	36	87	57	83	54	89	52	89	46	84	59
18	83	38	80	39	86	45	90	56	92	51	96	56	85	48	83	42	91	53	87	55	91	57	94	45	90	59
17	88	40	86	45	91	47	90	49	96	57	99	56	92	48	84	46	90	62	84	55	89	59	98	47	94	66
18	78	48	81	53	83	57	93	64	85	53	98	52	83	57	80	52	73	58	80	53	75	56	90	58	88	67
19	78	47	78	53	70	59	80	62	80	59	91	54	84	53	71	55	84	56	77	51	82	53	80	60	78	60
20	79	47	75	47	80	50	85	54	90	60	91	52	86	51	78	47	87	58	79	52	86	56	91	55	85	62
21	82	46	79	46	87	52	90	59	93	60	93	62	87	51	85	51	86	56	84	56	87	57	97	54	92	67
22	82	52	77	58	86	57	92	59	91	59	95	64	87	53	84	55	84	54	83	56	84	57	96	56	90	68
23	83	40	76	40	82	44	86	53	86	44	96	54	87	48	79	41	82	44	81	55	83	54	92	45	87	59
24	86	40	77	42	86	45	90	50	89	54	99	62	86	45	84	42	82	47	80	57	84	50	93	46	91	66
25	81	42	75	47	87	47	92	59	90	62	95	60	79	51	87	46	78	53	84	52	77	56	93	49	90	70
26	85	68	80	42	88	50	93	55	87	60	94	62	81	59	80	44	85	56	87	53	80	58	91	51	90	65
27	85	45	83	43	89	50	92	55	86	57	92	54	79	48	83	50	84	55	86	53	81	53	93	51	87	65
28	86	43	84	45	93	50	95	56	90	58	89	52	84	50	87	43	82	55	76	47	74	54	93	50	90	69
29	81	48	77	46	84	58	85	64	81	64	90	56	84	55	78	53	72	58	81	49	73	56	90	55	82	66
30	80	51	79	52	84	60	87	62	86	61	87	50	73	48	81	52	76	53	85	53	78	51	93	57	88	64
31	82	52	72	54	76	59	81	62	76	58	86	50	82	52	77	55	73	54	89	54	79	52	85	59	81	63
Means	79.1	43.3	75.8	44.4	82.2	48.8	86.4	54.9	85.0	54.7	86.6	54.4	82.1	48.8	79.3	46.4	81.3	52.6	83.7	54.5	81.0	53.1	89.1	50.5	84.6	62.6

Date.	Burns, Oreg.		Nevada.																							
			Cherry Creek.		Elko.		Eureka.		Fallon.		Jean.		Lovelocks.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	.....	.....	74	42	69	38	71	34	73	38	93	53	72	36	.....	.....	76	50	72	40	74	35	88	45	69	42	69	38
2	.....	.....	70	39	67	37	68	41	75	49	92	50	76	46	.....	.....	77	49	70	45	74	47	80	28	64	51	70	41
3	.....	.....	70	38	68	42	68	37	68	47	90	51	69	44	.....	.....	76	47	79	43	67	47	78	32	58	41	66	43
4	.....	.....	73	36	76	35	75	34	81	39	96	47	85	36	.....	.....	82	44	82	31	80	43	79	33	73	43	80	37
5	.....	.....	82	40	83	36	84	44	91	47	98	50	89	41	86	40	91	45	87	49	81	51	82	28	83	55	86	49
6	.....	.....	84	47	83	44	85	51	90	47	99	46	89	45	88	42	88	50	85	44	80	48	80	32	86	60	84	48
7	.....	.....	82	46	83	42	85	45	91	45	98	47	89	46	86	43	80	52	85	40	83	46	93	35	85	58	86	50
8	.....	.....	83	49	80	41	84	42	85	47	100	49	87	52	85	42	90	58	81	50	87	48	90	33	85	57	81	50
9	.....	.....	87	47	86	38	90	42	90	47	101	50	90	55	90	45	96	60	87	35	89	50	89	32	88	62	88	48
10	.....	.....	91	49	90	40	89	51	93	53	105	61	94	52	91	48	95	63	89	43	89	54	100	38	87	65	91	51
11	.....	.....	87	54	85	53	87	53	90	59	103	67	89	61	88	56	93	64	84	54	86	60	100	50	85	65	88	63
12	.....	.....	84	57	90	39	88	52	92	52	98	49	94	54	90	49	94	60	93	59	91	53	90	45	84	64	92	59
13	.....	.....	77	58	86	51	80	54	90	56	100	50	93	54	81	55	91	56	92	55	84	54	100	44	80	62	91	60
14	.....	.....	85	57	86	51	84	53	91	53	99	52	92	52	86	42	91	50	91	58	89	54	94	44	83	60	90	60
15	.....	.....	86	53	90	41	87	47	94	52	100	53	95	51	89	45	94	59	95	35	92	55	95	40	88	66	92	52
16	.....	.....	89	53	93	43	90	51	100	55	104	66	100	55	93	47	103	86	99	45	97	57	95	33	91	70	97	53
17	.....	.....	91	55	93	46	89	60	85	71	100	66	84	64	84	55	94	67	96	44	78	60	95	44	78	59	93	56
18	.....	.....	74	57	90	58	77	52	88	61	90	60	87	53	76	46	87	61	87	59	82	58	96	54	74	55	87	61
19	.....	.....	79	56	84	55	80	51	90	53	95	56	80	51	85	50	90	58	87	51	85	55	93	47	79	56	86	57
20	.....	.....	82	53	83	55	84	52	91	56	100	62	89	54	87	50	94	62	88	53	83	53	90	36	84	62	89	54
21	.....	.....	87	55	87	47	86	53	88	49	98	60	88	45	88	48	92	60	83	40	77	51	92	31	84	62	86	52
22	.....	.....	80	53	84	53	83	45	84	42	95	58	83	41	83	47	100	54	80	41	75	50	95	30	78	55	81	52
23	.....	.....	83	45	87	36	83	45	88	44	93	57	86	43	84	44	91	55	.....	.....	81	44	90	30	79	56	85	46
24	.....	.....	85	51	89	39	85	53	89	46	98	59	86	45	85	47	94	56	.....	.....	81	48	97	35	80	59	88	45
25	.....	.....	86	53	90	39	86	60	89	49	97	53	89	48	85	47	94	59	.....	.....	84	47	100	35	82	60	89	55
26	.....	.....	91	59	90	40	88	50	92	50	98	52	92	47	89	40	96	61	.....	.....	89	48	102	40	84	61	91	47
27	.....	.....	88	55	92	44	90	50	96	50	99	62	96	47	90	43	96	65	95	47	94	52	101	40	86	64	96	46
28	.....	.....	88	59	95	50	89	61	96	52	90	61	96	51	88	61	86	71	100	60	95	56	100	42	82	65	97	51
29	.....	.....	75	56	89	50	82	57	85	70	85	60	92	65	82	67	86	67	97	61	82	64	103	40	74	61	93	62
30	.....	.....	76	58	85	58	74	57	89	61	87	62	85	60	77	56	86	59	87	50	88	57	85	52	75	57	81	58
31	.....	.....	74	57	71	59	71	54	89	57	90	62	91	54	76	48	85	60	85	52	85	56	83	50	75	50	86	53
Mns.	.....	.....	83.0	51.2	84.6	45.2	82.6	49.4	88.2	51.6	96.5	55.8	88.0	49.8	85.6[4]	48.3[4]	89.9	58.3	87.3[4]	47.6[4]	83.9	51.6	92.1	38.6	80.2	58.2	86.4	51.5

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT NO. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

July, 1912, was the coolest July since 1897, and possibly the coolest for a much longer period. Considering the State as a whole, the mean temperature was lower than in July of any year during the period for which such records have been kept. In certain portions of the State the month is reported by cooperative observers as the coolest July in 21 years. For example, at San Bernardino there has been only one year—1892—when the average temperature was lower than that of July, 1912. On the other hand there are certain points in the State where the temperature for the month was above the normal.

The most noticeable feature of the weather was the infrequency of high afternoon temperatures in the Great Valley and in southeastern California. Along the coast the weather was in marked contrast with that of July, 1911. Then there was much fog and frequent high winds, while this year there has been little wind and much less fog than usual. Instead of unfavorable comment there has been a general agreement that the month as a whole was one of pleasant weather.

There were a few light showers during the month and the average rainfall was slightly above the normal. The month, however, is one of little rain and even a few light showers are sufficient to bring the total above the normal amount. The principal rainy period was the 17th–18th. The water supply steadily diminished and there were some complaints of scarcity at the end of the month. The run-off has been very light and river stages are very low.

The month began with the usual barometric depression over the valley of the Colorado, a characteristic condition during July. There were some light showers on the northern coast on the 2d and much cloudy weather in the southern part of the State. Light rains fell at San Diego on the 3d, which is an unusual occurrence at this time of year. There were no changes of importance until the 14th, when moderately warm weather prevailed. In the Great Valley temperatures reached 100°, which, however, is not an unusually high temperature for the section and time of year. The warm spell continued until the 16th, gradually increasing in intensity; temperatures as high as 108° were reported on the third day. The warm spell was followed by an agreeable change to cloudy, cooler weather, with light rain in the southern counties on July 17. Thunderstorms occurred in the Sierra Madre; and on July 18 moderately heavy rain fell in Owens Valley. This was a period of unsettled weather throughout the Great Basin and numerous thunderstorms with occasional cloudbursts were reported on the eastern slope of the Sierra Nevada. Washouts occurred at several places on the Southern Pacific lines from Truckee to Winnemucca and there were some delays to traffic. The rest of the month was without special feature, except that the conditions at the close were somewhat like those prevailing on the 17th, but less marked.

From an agricultural point of view weather conditions were excellent and all crops made good growth. There were no setbacks due to inclement weather. While the seasonal rainfall has been much below the normal, the water has been used to the utmost advantage, and there has been no waste nor loss. In the interior, as mentioned above, there were few if any excessively high temperatures, and there were no desiccating winds. There was less sunshine than usual on the northern coast, but elsewhere there was a normal amount.

TEMPERATURE.

The mean temperature for the State was 3° below the normal, the greatest negative departure in 16 years. The following table gives the means and departures for each July from 1897 to 1912, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897	74.5	+0.5	1905	74.8	+0.8
1898	81.4	+7.4	1906	76.8	+2.8
1899	77.9	+3.9	1907	73.1	−0.9
1900	75.9	+1.9	1908	76.4	+2.4
1901	76.0	+2.0	1909	71.2	−2.8
1902	72.8	−1.2	1910	75.5	+1.5
1903	71.2	−2.8	1911	74.1	+0.1
1904	72.2	−1.8	1912	71.0	−3.0

The highest temperature recorded at any station was 115° at Middlewater on the 17th. Report from Greenland Ranch, Death Valley, is missing and may show a higher temperature. The highest temperature reported at Indio was 113° on the 11th, which is 4° lower than the highest temperature at the same point during July, 1911, and 6° lower than the highest temperature at the same point during July, 1910. The lowest temperature was 23° at Quincy on the 1st, which is 5° lower than the lowest recorded during the same month last year.

PRECIPITATION.

The precipitation for the season has been much below the normal, and yet the precipitation for May, June, and July has been above the normal. The actual amounts, however, are small, and the combined rainfall of these three months did not materially affect the seasonal total. The average monthly precipitation was 0.06 of an inch.

The following table gives the average and departure from the normal for each July from 1897 to 1912, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897	0.01	−0.03	1905	0.01	−0.03
1898	T.	− .04	1906	.04	.00
1899	T.	− .04	1907	.03	− .01
1900	.03	− .01	1908	.04	.00
1901	.01	− .03	1909	.05	+ .01
1902	.07	+ .03	1910	.10	+ .06
1903	.03	− .01	1911	.10	+ .06
1904	.09	+ .05	1912	.06	+ .02

The greatest monthly rainfall was 1.94 inches at Dunsmuir. One hundred and thirty-eight stations reported no rain during the month.

SUNSHINE.

The following table gives the total hours of sunshine and percentages of the possible:

Stations.	Hours.	Percentage of possible.	Stations.	Hours.	Percentage of possible.
Eureka	132	29	Sacramento	418	92
Fresno	410	92	San Diego	292	67
Los Angeles	312	71	San Francisco	273	61
Mount Tamalpais	385	86	San Jose	350	78
Red Bluff	414	91	San Luis Obispo	295	67

NOTES ON THE RIVERS OF THE SACRAMENTO AND LOWER SAN JOAQUIN WATERSHEDS DURING JULY, 1912.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—There was a steady fall in all streams throughout the Sacramento drainage basin. In the Sacramento River the ranges between the stages on the first and those on the last dates were from 1 foot in the upper reaches to as much as 3 feet at the mouth of the American.

At Colusa the stage of the Sacramento equaled the lowest previous average for the month, and at Knights Landing and the city of Sacramento it averaged lower than ever before recorded during July.

In the headwaters of the Feather-Yuba and American River Basins streams were much below the usual July stages. The Feather at Oroville averaged slightly above the previous July low water, but the Yuba at Marysville was 0.4 of a foot lower than for any corresponding month since records at that point have been kept. At Folsom on the American the river lacked 0.4 of a foot of being as low as the previous low-water average of July.

While numerous shoals and sand bars have formed in the Sacramento above the mouth of the American, boats are still running as far as Chico Landing.

Lower San Joaquin watershed.—The rivers of this watershed were much below the usual July stages, especially during the first half of the month when usually snow water increases the run-off.

At San Joaquin bridge the San Joaquin River was 7 feet below the July normal stage, and the average was 14.3 feet below that of July, 1911. The Mokelumne and Cosumnes Rivers were the lowest of any July of which there is a record.

FROST FIGHTING AT POMONA.

Mr. J. E. Adamson, of Pomona, states in the Pacific Rural Press for July, 1912, as follows:

The people in and about Pomona district have been prompt to recognize the value not only of orchard heating, but of the greater efficiency to be obtained from concerted work. They have formed an association for the express purpose of furthering the interest in frost prevention and the control of the fight when the actual battle comes.

The association centralizes its power in a committee, and this again in a general manager, who will divide the valley into a number of districts, each of which will have a number, after the manner of fire districts in a city. In each of these districts will be located instruments for the recording of temperature and humidity, and also wind direction and velocity. A night watchman will make the rounds of these stations on dangerous nights, reporting to headquarters once an hour or oftener if the conditions change suddenly. These reports coming in from all over the valley will be tabulated and will then become an accurate guide to the manager in determining the advance of the cold wave and the necessary time and place to begin firing. Alarms will be sent out at the proper time and the growers in the danger zone will be at work all over the cold area at once. It is hoped by this uniform control of the work to secure uniform results and save the individual grower the trouble of keeping a close watch before the actual danger line is reached. Other districts are rapidly falling into line and it would seem that the grower of citrus fruit has made up his mind that no longer will there be damaged fruit sent to the consumer if preparation will prevent it.

VARIATION OF RAINFALL WITH ALTITUDE.

By A. G. MCADIE.

In the Monthly Weather Review for September, 1911, page 1422, there was published a discussion of the rainfall records of four stations near Fresno for the seasons 1909–10 and 1910–11. The data were supplied through the courtesy of Mr. E. J. Crawford, assistant general superintendent of the San Joaquin Light & Power Corporation. The stations are:

		Elevation.
Fresno	feet	230
San Joaquin power house	do	1,013
Reservoir No. 1	do	2,441
Colorado Valley Dam	do	3,500

By combining the records the following annual amounts were determined for the various elevations:

		Rainfall.
230 feet	inches	11.40
1,013 feet	do	31.53
2,441 feet	do	31.63
3,500 feet	do	50.16

or a gradient of 1.18 inches per 100 feet.

Attention was called to an apparent irregularity in the rate of increase between the second and third stations.

Mr. Crawford has offered the following reasonable explanation. The 1,000-foot elevation represents a locality on the main San Joaquin River so situated that the 2,000-foot level has to be passed over before the 1,000-foot level is reached. In other words, the power house, itself at an elevation of a little over 1,000 feet, is surrounded by hills exceeding 2,000 feet. The amount caught at the lower level is practically the same as that of the higher elevation.

Mr. Crawford furnishes the following additional data for the season of 1911–12:

Months.	Fresno.	San Joaquin power house.	Reservoir No. 1.	Colorado Valley Dam.
September	0.01	0.06	0.08	0.30
October	.09	.07	.08	.25
November	.17	1.45	1.27	2.62
December	1.06	1.18	1.78	3.49
January	.72	.64	2.18	2.90
February	.00	.08	.09	.34
March	3.02	6.02	5.66	9.61
April	1.86	3.55	3.67	7.00
May	.41	.77	.75	1.58
June	.00	.00	.00	.11
July				
August				
Total	7.34	13.82	15.56	28.20

For the three seasons, 1909–10, 1910–11, and 1911–12, we find that the seasonal rainfalls average:

		Rainfall.
230 feet	inches	10.05
1,013 feet	do	25.63
2,441 feet	do	26.27
3,500 feet	do	42.84

Neglecting the second station, for the reason above stated, we find that the average increase up to 3,500 feet is at the rate of 1 inch per 100 feet; the average increase up to 2,441 feet is at the rate of 0.73 inch per 100 feet; while the average rate of increase in the level between 2,441 feet and 3,500 feet is at the rate of 1.45 inches.

TABLE 1.—*Climatological data for July, 1912. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency	Klamath	4,169	3	59.4	.....	92	19†	34	3	53	0.80	.....	0.80	0	1	25	6	0	s.	N. D. Ginsbach.
Klamath Falls	do	4,100	22	63.6	− 4.5	93	16	33	1	35	0.18	− 0.02	0.07	0	4	19	8	4	nw.	Leland Moser.
Lakeview	Lake	4,825	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bert Rice.
Merrill	Klamath	4,070	5	62.6[a]	.....	94[a]	16	30[a]	1	46[a]	0.25	.....	0.25	0	1	25	4	2	.....	Mrs. Agnes Ritchson.
Yonna	do	4,146	4	59.5	.....	93	16	26	1	50	0.30	.....	0.27	0	2	2	25	4	w.	Jacob Rueck.
California.																				
Alameda	Alameda	19	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. E. Sears.
Alturas	Modoc	4,460	8	64.8	.....	99	16	32	1	53	0.64	.....	0.60	0	3	23	7	1	sw.	Prof. C. B. Towle.
Angiola	Tulare	208	12	84.2	+ 5.4	101	5†	64	3	28	0.00	0.00	0.00	0	0	31	0	0	nw.	Santa Fe Co.
Antioch**	Contra Costa	46	33	77.3	+ 1.5	99	7	54	24	....	0.00	0.00	0.00	0	0	31	0	0	.....	Southern Pacific Co.
Aptos**	Santa Cruz	102	27	63.3	+ 1.0	78	21	52	28	....	0.00	− 0.01	0.00	0	0	25	3	3	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	3	73.4	.....	96	15	48	3	38	0.00	.....	0.00	0	0	26	5	0	.....	Dr. E. A. Crokat.
Auburn	Placer	1,360	41	74.0	− 2.8	102	17	51	24†	36	0.00	− 0.01	0.00	0	0	25	0	6	.....	Southern Pacific Co.
Avalon	Los Angeles	30	2	64.2	.....	75	14†	55	1†	17	0.00	.....	0.00	0	0	29	2	0	w.	T. S. Manning.
Azusa	do	540	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. P. Griffith.
Bagdad	San Bernardino	784	9	94.2	.....	111	11†	70	3	27	1.00	.....	0.70	0	2	.....	.....	.....	.....	Santa Fe Co.
Bakersfield	Kern	404	23	80.2	− 5.1	102	23	58	1	30	0.00	− 0.01	0.00	0	0	31	0	0	.....	Do.
Barstow	San Bernardino	2,105	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. L. White.
Berkeley	Alameda	317	25	61.5	+ 0.2	79	16	48	7	26	0.00	− 0.02	0.00	0	0	5	20	6	sw.	State University.
Biggs**	Butte	98	13	79.8	+ 0.4	105	16	61	1	....	0.00	0.00	0.00	0	0	27	2	2	s.	Southern Pacific Co.
Bishop	Inyo	4,450	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Paul E. Lodge.
Bishop Creek	do	8,500	2	57.0	.....	78	10	31	4	36	0.00	.....	0.00	0	0	29	0	2	.....	Do.
Blocksburg	Humboldt	1,700	6	67.6	.....	97	16	44	3	40	T.	.....	T.	0	0	23	7	1	nw.	Victor Hope.
Blue Canyon	Placer	4,695	13	63.1	− 2.1	89	16†	32	9	45	0.18	0.00	0.18	0	1	28	2	1	.....	Southern Pacific Co.
Blythe	Riverside	268	3	86.1	.....	112	11	54	4	47	T.	.....	T.	0	0	9	5	17	s.	D. H. Carey.
Branscomb	Mendocino	2,000	12	63.2	.....	95	16	38	1	40	T.	− 0.12	T.	0	0	21	8	2	n.	A. J. Haun.
Brawley	Imperial	−105	3	86.4	.....	109	10†	57	4	41	T.	.....	T.	0	0	0	.....	.....	.....	M. D. Witter.
Burney	Shasta	3,300	2	61.6	.....	95	16	31	1	48	0.00	.....	0.00	0	0	16	14	1	sw.	Mrs. M. D. Chambers.
Cahuilla	Riverside	3,600	1	64.9[k]	.....	94	15	38	23	53	0.12	.....	0.12	0	1	.....	.....	.....	.....	Carl Stevens.
Calexico	Imperial	0	7	87.0	.....	110	10	62	4	38	0.19	.....	0.19	0	1	28	0	3	nw.	J. E. Peck.
Caliente**	Kern	1,290	36	80.5	− 4.3	102	16	62	3	....	0.00	0.00	0.00	0	0	24	3	4	.....	Southern Pacific Co.
Calistoga	Napa	363	40	60.3	−12.3	90	4†	50	3†	....	0.00	− 0.03	0.00	0	0	31	0	0	.....	Do.
Campbell	Santa Clara	217	15	62.8	− 2.1	89	17	43	8	43	T.	0.00	T.	0	0	28	3	0	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	5	74.3	.....	106	16	46	1	46	0.03	.....	0.03	0	1	25	6	0	s.	California Gas & Electric Co.
Cedarville	Modoc	4,675	18	66.6	− 3.0	94	16	34	1	39	0.16	− 0.10	0.08	0	3	15	16	0	sw.	T. H. Johnstone.
Chico	Butte	189	42	78.0	− 5.9	110	16	52	2	47	T.	− 0.03	T.	0	0	27	3	1	s.	C. H. Stephenson.
China Flat	Humboldt	600	3	72.4	.....	104	15	42	1	54	T.	.....	T.	0	0	20	9	2	w.	O. I. Westerburg.
Chino**	San Bernardino	714	20	79.3	+ 1.6	102	16	58	4†	....	0.00	− 0.02	0.00	0	0	26	4	0	.....	Southern Pacific Co.
Cisco**	Placer	5,939	41	68.8	+ 5.6	85	10†	50	21†	....	0.00	− 0.02	0.00	0	0	30	0	1	.....	Do.
Claremont	Los Angeles	1,200	20	72.6	− 0.3	104	15	47	1†	45	0.00	− 0.02	0.00	0	0	23	3	5	w.	Prof. F. P. Brackett.
Cloverdale	Sonoma	340	10	66.5	− 5.3	100	15	47	4	45	0.00	0.00	0.00	0	0	31	0	0	s.	John O. Ogle.
Coalinga	Fresno	.....	.....	82.0	.....	111	17	47	5	47	0.00	.....	0.00	0	0	26	5	0	w.	Union Oil Co.
Colfax	Placer	2,421	41	70.4	− 4.9	97	17	48	3	33	T.	− 0.02	T.	0	0	22	2	7	n.	Southern Pacific Co.
Colusa	Colusa	60	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. D. McComish.
Corning**	Tehama	277	26	82.8	− 0.6	107	16	65	1	....	0.00	0.00	0.00	0	0	26	5	0	s.	Southern Pacific Co.
Cuyamaca	San Diego	4,677	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Macquarie.
Davisville	Yolo	51	40	73.0	− 4.9	107	15	47	3	52	0.00	− 0.02	0.00	0	0	29	2	0	sw.	S. H. Brackett.
Deer Creek	Nevada	3,700	5	63.1	.....	91	16	35	1	40	0.04	.....	0.03	0	2	26	4	1	w.	California Gas & Electric Co.
Del Monte	Monterey	25	1	62.8	.....	76	25	54	5	19	0.00	.....	0.00	0	0	23	5	3	w.	H. R. Warner.
Delta	Shasta	1,138	27	72.8	− 5.6	105	17	49	3	43	T.	− 0.10	T.	0	0	27	2	2	n.	Southern Pacific Co.
Denair	Stanislaus	126	12	71.4	− 5.8	103	16	43	1	50	0.00	0.00	0.00	0	0	27	1	3	nw.	Santa Fe Co.
De Sabla	Butte	2,500	8	69.1	.....	98	16	42	1	39	0.05	.....	0.05	0	1	17	14	0	sw.	California Gas & Electric Co.
Dobbins (near)	Yuba	1,650	8	75.8	.....	102	16	52	1	36	0.00	.....	0.00	0	0	23	8	0	s.	Do.
Downieville	Sierra	3,150	1	67.2	.....	100	16	35	1	47	T.	.....	T.	0	0	22	8	1	s.	J. T. Mason.
Dudley	Kings	595	....	83.7	.....	107	17†	53	3	44	0.00	.....	0.00	0	0	29	2	0	w.	Union Oil Co.
Dudleys	Mariposa	3,000	3	64.5	.....	95	16	33	1	45	0.03	.....	0.03	0	1	23	6	2	nw.	W. H. Dudley.
Dunlap (near)	Fresno	2,800	....	69.8	.....	97	16	40	2	38	T.	.....	T.	0	0	25	5	1	.....	U. S. Forest Service.
Dunnigan**	Yolo	65	35	85.1	+ 3.3	105	15	60	30	....	0.00	0.00	0.00	0	0	30	1	0	n.	Southern Pacific Co.
Dunsmuir**	Siskiyou	2,285	23	69.2	− 2.0	106	16	50	9	....	1.94	+ 1.78	1.00	0	2	27	3	1	n.	Do.
Durham	Butte	160	17	76.0	− 2.5	105	15	50	21	46	0.02	+ 0.02	0.02	0	1	25	5	1	s.	R. W. Durham.
El Cajon	San Diego	482	13	70.2	− 2.4	100	15	52	9	40	0.00	− 0.10	0.00	0	0	26	5	0	sw.	H. H. Kessler.
Electra	Amador	725	8	76.2	.....	104	16	52	1	40	T.	.....	T.	0	0	31	0	0	.....	California Gas & Electric Co.
Elsinore	Riverside	1,234	17	74.1	− 3.9	103	15	45	1	49	T.	− 0.01	T.	0	0	23	2	6	w.	A. F. Schult.
Emigrant Gap	Placer	5,230	38	65.4	− 2.1	89	16	42	1	28	0.00	− 0.03	0.00	0	0	31	0	0	.....	Southern Pacific Co.
Escondido	San Diego	657	18	75.3	+ 3.0	97	15†	52	2†	39	0.00	− 0.01	0.00	0	0	7	24	0	w.	A. R. Moon.
Eureka	Humboldt	64	26	55.2	− 0.1	66	20	46	11	15	0.05	− 0.04	0.02	0	5	5	10	16	n.	U. S. Weather Bureau.
Farmington**	San Joaquin	111	33	84.8	+ 6.6	103	16	64	29	....	0.00	0.00	0.00	0	0	30	1	0	nw.	Southern Pacific Co.
Folsom	Sacramento	252	40	75.8	− 4.1	106	16	51	1	39	0.02	+ 0.01	0.02	0	1	27	3	1	s.	F. O. Hutton.
Fordyce Dam	Nevada	6,500	17	61.8	.....	88	16	41	1	30	0.20	+ 0.02	0.20	0	1	16	15	0	sw.	E. E. Roening.
Fort Bidwell	Modoc	4,735	23	60.7	−11.2	95	15	27	1†	50	T.	− 0.32	T.	0	0	15	11	5	.....	E. O. Franklin.
Fouts Springs	Colusa	1,650	8	70.8	.....	102	16	41	1	44	0.00	.....	0.00	0	0	.....	.....	.....	.....	A. J. Burgi.
Fresno	Fresno	293	25	79.8	− 2.2	109	16	55	3	40	T.	0.00	T.	0	0	23	7	1	nw.	U. S. Weather Bureau.
Galt**	Sacramento	49	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Georgetown	El Dorado	2,650	39	71.6	− 7.2	97	16	46	2	35	0.03	− 0.01	0.03	0	1	21	10	0	se.	H. D. Jerrett.
Gilroy**	Santa Clara	193	38	69.2	+ 0.4	106	15	50	3†	....	0.00	0.00	0.00	0	0	17	11	3	n.	Southern Pacific Co.
Gilta	Siskiyou	3,300	2	68.6	.....	96	16	39	1	46	0.04	.....	0.03	0	2	25	3	3	e.	A. Dannenbrink.
Glennville	Kern	3,300	2	66.8	.....	89	9†	45	3	34	T.	.....	T.	0	0	19	11	1	.....	C. H. Likely.
Gold Run	Placer	3,222	13	72.5	− 3.5	96	10†	51	1	33	T.	0.00	T.	0	0	16	11	4	n.	Southern Pacific Co.
Gonzales**	Monterey	127	13	70.4	+ 9.8	86	1†	58	1†	....	0.00	0.00	0.00	0	0	31	0	0	.....	Do.
Grass Valley	Nevada	2,690	40	68.8	.....	94	16	43	1	37	0.06	+ 0.03	0.06	0	1	28	3	0	sw.	F. R. Hull.
Greenland Ranch	Inyo	−178	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Corkhill.
Greenville	Plumas	3,600	18	61.0	− 4.9	95	16†	30	1	56	T.	− 0.19	T.	0	0	20	4	7	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	3	64.8	.....	95	17	40	3†	45	T.	.....	T.	0	0	28	3	0	.....	H. S. Richardson.
Guinda**	Yolo	350	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Hanford	Kings	249	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Healdsburg	Sonoma	110	19	66.4	− 2.1	97	15	45	5†	46	T.	− 0.03	T.	0	0	11	0	20	s.	F. J. Kinley.
Hearst	do	1,800	2	70.4	.....	94	15	53	25	34	0.01	.....	0.01	0	1	24	7	0	nw.	H. D. Ellmaker.
Heber	Imperial	−20	6	85.9	.....	111	10†	56	1†	45	0.02	.....	0.02	0	1	7	24	0	se.	C. J. Booth.
Hetch Hetchy	Tuolumne	3,665	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Brown.
Hollister	San Benito	284	38	63.6	− 3.6	98	16	42	1	42	0.00	− 0.01	0.00	0	0	29	1	1	w.	J. N. Thompson.
Hornbrook**	Siskiyou	2,154	24	64.3	− 9.1	99	31	42	12†	....	0.40	+ 0.22	0.24	0	4	13	14	4	n.	Southern Pacific Co.
Hot Springs	Tulare	3,300	5	73.6	.....	100	16	46	3	36	0.00	.....	0.00	0	0	26	3	2	.....	U. S. Forest Service.
Hullville	Lake	2,250	5	67.4	.....	96	16	40	1	40	0.00	.....	0.00	0	0	1	30	0	sw.	T. H. Betterton.
Idyllwild	Riverside	5,250	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Earl Powers.
Independence	Inyo	3,907	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1912. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Continued.																				
Indio	Riverside	−20	34	90.0	− 4.5	113	11	63	3†	36	0.04	0.00	0.04	0	1	19	12	0	se.	F. N. Johnson.
Inskip	Butte	4,975	5	66.8	.....	90	15	44	1	26	0.06	.....	0.06	0	1	15	14	2	.....	California Gas & Electric Co.
Ione**	Amador	287	34	79.6	+ 1.0	106	16†	60	1	....	0.00	0.00	0.00	0	0	26	0	5	sw.	Southern Pacific Co.
Jamestown	Tuolumne	1,471	9	72.5	.....	102	16	42	1	42	T.	.....	T.	0	0	30	1	0	.....	Sierra Ry. Co.
Kennett	Shasta	730	....	78.6	.....	111	16	55	1	47	T.	.....	T.	0	0	25	5	1	e.	O. J. Egleston.
Kentfield	Marin	65	24	64.2	.....	90	15	43	26†	42	0.00	− 0.01	0.00	0	0	18	13	0	.....	Miss M. E. Parsons.
King City	Monterey	333	25	78.4	+10.9	100	15	57	30	37	0.00	0.00	0.00	0	0	31	0	0	s.	Southern Pacific Co.
Lake Eleanor	Tuolumne	4,700	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Todd.
La Porte	Plumas	5,000	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. W. Hendel.
Le Grand	Merced	255	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Lemon Cove	Tulare	600	17	80.0	− 1.6	111	16†	50	2	44	0.00	− 0.01	0.00	0	0	25	6	0	w.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	23	65.5	− 3.6	84	16	44	31	21	0.00	0.00	0.00	0	0	26	3	2	n.	The Director.
Livermore	Alameda	485	41	69.4	− 0.7	104	15	46	27	48	T.	− 0.01	T.	0	0	24	6	1	w.	E. G. Still.
Lodi	San Joaquin	45	30	72.6	− 1.1	102	16	50	26	41	0.00	0.00	0.00	0	0	29	2	0	w.	Ezra Fiske.
Lone Pine	Inyo	2,728	7	73.0	.....	99	9	46	2	48	0.08	.....	0.08	0	1	21	9	1	s.	G. F. Marsh.
Long Valley	Lassen	4,400	3	72.0	.....	98	16	36	1	43	0.26	.....	0.16	0	2	14	8	9	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	35	68.8	+ 1.4	92	16	55	13	27	T.	− 0.02	T.	0	0	17	10	4	sw.	U. S. Weather Bureau.
Los Banos**	Merced	121	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Los Gatos	Santa Clara	600	25	66.0	− 1.8	98	15	46	4	44	0.00	0.00	0.00	0	0	27	2	2	n.	F. H. McCullagh.
McCloud	Siskiyou	3,410	2	61.7	.....	92	16	32	1	39	0.03	.....	0.03	0	1	26	4	1	s.	F. F. Spencer.
MacDoel	....do	4,528	7	57.8	.....	92	16	26	8†	54	0.00	.....	0.00	0	0	10	1	20	nw.	Butte Valley Land Co.
Madeline	Lassen	5,270	3	60.0	.....	92	16	26	1	49	0.05	.....	0.05	0	1	18	8	5	nw.	J. H. Williams.
Magalia	Butte	2,321	8	71.2	.....	101	16	44	1	38	T.	.....	T.	0	0	28	3	0	se.	Butte County R. R. Co.
Mammoth Tank	Imperial	257	34	92.0	− 6.5	112	10†	65	3†	37	0.00	− 0.06	0.00	0	0	26	0	5	w.	Southern Pacific Co.
Maricopa	Kern	640	1	80.8	.....	107	16	58	2	34	0.00	.....	0.00	0	0	19	9	3	e.	Union Oil Co.
Marysville	Yuba	67	41	75.6	− 4.4	106	16	51	2	45	0.00	0.00	0.00	0	0	31	0	0	s.	Southern Pacific Co.
Mecca	Riverside	−185	6	83.4	.....	111	11†	63	2	39	T.	.....	T.	0	0	19	12	0	se.	E. A. Palmer.
Menlo Park**	San Mateo	64	34	69.5	+ 1.8	88	15	58	5†	....	0.00	− 0.01	0.00	0	0	17	14	0	.....	Southern Pacific Co.
Merced	Merced	173	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Middlewater	Kern	.....	1	87.6	.....	115	17	50	1	51	0.00	.....	0.00	0	0	26	4	1	w.	Union Oil Co.
Mill Creek (1)	Amador	.....	5	67.4	.....	90	16	45	2†	34	0.06	.....	0.06	0	1	26	5	0	n.	California Gas & Electric Co.
Milton (near)	Calaveras	660	21	75.9	− 2.0	105	17	53	30	38	T.	0.00	T.	0	0	26	5	0	nw.	J. H. Southwick.
Modesto**	Stanislaus	90	40	83.5	+ 2.0	100	15†	65	10†	....	0.00	− 0.01	0.00	0	0	31	0	0	.....	Southern Pacific Co.
Mojave	Kern	2,751	35	76.7	− 9.0	95	27	54	14	33	0.00	− 0.06	0.00	0	0	17	14	0	.....	Do.
Mokelumne Hill	Calaveras	1,550	19	74.1	− 2.7	100	16	50	30	34	T.	0.00	T.	0	0	26	2	3	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	6	65.1	.....	89	15	40	1	38	T.	.....	T.	0	0	25	5	1	w.	Herbert Lathrop.
Montague	Siskiyou	2,450	24	69.2	− 8.0	102	16	35	1	46	0.07	− 0.16	0.06	0	2	16	12	3	nw.	I. E. Deboy.
Monterey	Monterey	15	47	65.2	+ 4.2	76	16†	58	2†	....	0.00	0.00	0.00	0	0	31	0	0	nw.	Southern Pacific Co.
Monterio	Kern	4,500	13	76.0	− 0.8	106	20	44	3	30	0.00	− 0.08	0.00	0	0	16	4	11	nw.	John C. Knecht.
Mount Tamalpais	Marin	2,375	13	64.0	− 6.5	86	15	45	13	21	0.00	− 0.01	0.00	0	0	22	8	1	nw.	U. S. Weather Bureau.
Napa City	Napa	20	35	63.4	− 2.6	93	15	43	2	45	0.00	− 0.01	0.00	0	0	20	11	0	s.	Alex Hall.
Napa (S. H.)	....do	60	34	67.2	− 0.4	92	15	52	7†	36	0.00	− 0.01	0.00	0	0	21	10	0	sw.	W. H. Martin.
Needles	San Bernandino	477	20	89.6	− 5.0	108	9†	67	4	35	1.34	+ 1.07	0.91	0	4	23	2	6	nw.	Santa Fe Co.
Nellie	San Diego	5,350	3	69.8	.....	91	16	38	2	44	T.	.....	T.	0	0	25	3	3	.....	T. O. Bailey.
Nevada City	Nevada	2,580	20	67.0	− 1.8	95	16	35	1†	44	0.03	− 0.02	0.03	0	1	22	9	0	sw.	S. W. March.
Newhall**	Los Angeles	1,200	35	73.4	− 3.2	104	15	60	2†	....	0.00	0.00	0.00	0	0	29	0	2	se.	Southern Pacific Co.
Newman	Stanislaus	91	23	81.6	− 0.4	103*	5†	50	24	43	0.00	0.00	0.00	0	0	31	0	0	n.	E. S. Wangenheim.
North Bloomfield	Nevada	3,214	15	71.8	+ 0.3	97	16	48	1	40	0.00	−0.07	0.00	0	0	19	4	8	w.	J. R. McIntosh.
North Fork	Madera	3,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Oakdale**	Stanislaus	156	18	72.8	− 5.5	103	15	58	1†	....	T.	0.00	T.	0	0	28	3	0	nw.	Southern Pacific Co.
Oak Grove	San Diego	2,751	2	69.8	.....	98	15	37	23	51	0.33	.....	0.23	0	3	16	13	2	nw.	B. L. Johnson.
Oakland	Alameda	36	36	63.2	+ 1.4	79	1	51	7	26	T.	− 0.02	T.	0	0	8	16	7	w.	Chabot Observatory.
Oceanside	San Diego	60	2	71.2	.....	83	19	60	3†	16	0.02	.....	0.02	0	1	23	6	2	w.	H. D. Brodie.
Ojai Valley	Ventura	900	6	70.0	.....	103	15	42	4†	49	T.	.....	T.	0	0	24	6	1	sw.	W. H. Duncan.
Orland	Glenn	254	30	78.6	− 7.8	111	16	55	5†	42	T.	− 0.01	T.	0	0	28	3	0	sw.	U. S. Reclamation Service.
Orleans	Humboldt	520	9	76.0	.....	106	15†	49	1	46	0.08	.....	0.05	0	2	27	0	4	.....	F. T. Hale.
Oroville (near)	Butte	250	28	76.8	− 3.4	107	15†	52	1	44	T.	− 0.02	T.	0	0	27	4	0	s.	E. D. Fairchild.
Palermo	....do	213	21	77.8	− 0.4	106	27†	48	18†	50	0.00	− 0.03	0.00	0	0	22	9	0	sw.	Western Pacific Co.
Palm Springs**	Riverside	584	23	88.0	− 6.5	112	14	65	2†	....	0.04	+ 0.02	0.04	0	1	21	1	9	w.	Southern Pacific Co.
Pasadena	Los Angeles	827	22	69.4	− 2.0	99	15	46	1	41	T.	0.00	T.	0	0	27	3	1	sw.	E. D. Sorver.
Paso Robles	San Luis Obispo	800	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. W. Sawyer.
Peachland	Sonoma	190	16	61.7	− 3.9	90	16	42	26	44	0.02	0.00	0.02	0	1	25	6	0	sw.	E. H. Parnell.
Placerville	El Dorado	1,875	23	69.8	− 2.8	96	16†	44	1	40	0.01	− 0.01	0.01	0	1	.....	.....	.....	.....	A. Baring-Gould.
Point Lobos	San Francisco	250	19	56.5	− 0.4	68	1†	48	4	16	T.	− 0.01	T.	0	0	2	12	17	sw.	John Hyslop.
Point Reyes	Marin	490	20	54.0	+ 0.5	65	24	46	5	13	0.04	− 0.03	0.04	0	2	6	8	17	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	23	81.7	− 3.1	113	16	56	22†	45	T.	− 0.03	T.	0	0	30	1	0	.....	Leslie McAuliff.
Quincy	Plumas	3,400	17	61.0	− 4.3	94	16	23	1	55	0.33	+ 0.25	0.18	0	2	23	7	1	sw.	U. S. Forest Service.
Red Bluff	Tehama	307	35	78.5	− 3.6	109	16	56	24	38	0.04	− 0.03	0.04	0	1	26	5	0	se.	U. S. Weather Bureau.
Redding	Shasta	552	37	80.0	− 2.3	112	16	54	1	43	0.02	− 0.07	0.02	0	1	28	3	0	s.	W. W. Jones.
Redlands	San Bernardino	1,352	19	73.6	− 3.8	100	15	50	1	43	0.16	+ 0.14	0.16	0	1	18	9	4	w.	P. W. Moore.
Reedley	Fresno	347	12	77.9	− 4.1	106	16	52	3	40	0.00	0.00	0.00	0	0	30	0	1	n.	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	6	72.2	.....	94	15	46	4	35	0.11	.....	0.11	0	1	18	7	6	sw.	So. California Edison Co.
Riverside	Riverside	851	30	72.3	− 4.0	100	15	46	1	47	0.00	− 0.02	0.00	0	0	13	15	3	w.	J. N. D. Cox.
Rocklin	Placer	249	41	74.6	− 5.4	104	16†	45	1	41	0.01	− 0.01	0.01	0	1	27	0	4	s.	Southern Pacific Co.
Rohnerville	Humboldt	75	9	58.8	.....	73	16†	46	15†	26	T.	.....	T.	0	0	14	11	6	nw.	Dr. R. Callahan.
Sacramento	Sacramento	71	35	71.6	− 0.9	103	15	53	6†	40	0.00	0.00	0.00	0	0	30	1	0	s.	U. S. Weather Bureau.
St. Helena	Napa	255	4	68.8	.....	103	15	42	29	51	0.00	.....	0.00	0	0	31	0	0	.....	E. E. Hooper.
Salinas	Monterey	40	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	20	74.0	− 1.6	102	15	45	1	46	0.00	− 0.04	0.00	0	0	16	10	5	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	41	66.9	0.0	85	15	58	6	19	0.14	+ 0.13	0.12	0	2	18	12	1	nw.	U. S. Weather Bureau.
San Francisco	San Francisco	207	41	57.9	+ 0.6	71	1	49	11	19	T.	− 0.02	T.	0	0	12	14	5	w.	Do.
San Jacinto	Riverside	1,550	19	74.8	− 1.5	102	15	46	1	43	0.00	− 0.09	0.00	0	0	22	6	3	w.	E. T. Tanner.
San Jose	Santa Clara	95	37	64.7	− 2.2	89	15	46	1	36	T.	0.00	T.	0	0	24	7	0	nw.	U. S. Weather Bureau.
San Luis Obispo	San Luis Obispo	201	17	62.3	− 0.9	87	15	45	1	35	T.	0.00	T.	0	0	13	12	6	nw.	Do.
San Mateo**	San Mateo	22	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
San Miguel**	San Luis Obispo	616	25	78.4	+ 2.7	103	16	57	13	....	0.00	0.00	0.00	0	0	27	4	0	.....	Do.
San Miguel Island	Santa Barbara	500	18	56.2	.....	66	15	49	29	12	0.00	− 0.03	0.00	0	0	28	0	3	w.	Capt. W. G. Waters.
Sanger**	Fresno	371	23	86.3	+ 0.2	106	18	70	31	....	0.00	0.00	0.00	0	0	31	0	0	.....	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	28	63.5	− 1.7	87	15	49	3	30	T.	− 0.02	T.	0	0	29	2	0	w.	G. W. Russell.
Santa Clara	Santa Clara	90	23	64.8	+ 0.5	91	15	44	1†	40	0.00	0.00	0.00	0	0	27	3	1	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	39	62.8	− 1.1	91	14	43	1	42	0.00	− 0.01	0.00	0	0	31	0	0	w.	W. R. Springer.
Santa Margarita**	San Luis Obispo	996	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Santa Maria	Santa Barbara	220	24	61.6	− 2.8	83	23	42	17	33	0.00	− 0.01	0.00	0	0	31	0	0	w.	Edwin Morris.
Santa Monica	Los Angeles	110	27	62.4	− 5.5	80	15	50	3†	20	0.00	0.00	0.00	0	0	26	4	1	w.	N. D. Ingham.

TABLE 1.—*Climatological data for July, 1912. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Continued.																				
Santa Rosa	Sonoma	181	23	63.6	− 2.7	92	15	42	27	46	0.00	− 0.05	0.00	0	0	23	6	2	s.	Southern Pacific Co.
Selma **	Fresno	311	26	79.7	− 4.9	108	16	60	5	....	0.00	0.00	0.00	0	0	31	0	0	.....	Do.
Seven Oaks	San Bernardino	5,000	2	63.3	.....	85	15	36	2	36	0.27	.....	0.18	0	2	15	8	8	w.	M. Lewis.
Shasta	Shasta	1,048	16	72.2	−10.3	104	17	39	8	53	0.00	− 0.08	0.00	0	0	28	3	0	nw.	Dr. T. J. Edgecomb.
Sierra Madre	Los Angeles	1,400	15	66.7	− 5.8	97	15	50	4	33	T.	− 0.01	T.	0	0	26	1	4	s.	Mrs. A. E. Gregory.
Sierraville	Sierra	5,000	2	60.4	.....	95	16	30	1†	59	0.00	.....	0.00	0	0	15	12	4	sw.	C. D. Johnson.
Sisson	Siskiyou	3,555	23	62.1	− 7.8	92	16	37	2	41	0.48	+ 0.38	0.48	0	1	27	3	1	n.	Southern Pacific Co.
Soledad **	Monterey	188	38	68.9	+ 2.8	90	16	56	29	....	0.00	0.00	0.00	0	0	31	0	0	n.	Do.
Sonora	Tuolumne	1,825	24	73.9	.....	100	16	47	1	36	0.00	− 0.02	0.00	0	0	27	4	0	w.	Chas. P. Jones.
Southeast Farallon	San Francisco	30	9	54.8	.....	63	30	48	9	9	0.01	.....	0.01	0	1	11	9	11	nw.	U. S. Weather Bureau.
Springville	Tulare	4,000	5	68.4	.....	95	16	41	3	35	T.	.....	T.	0	0	26	4	1	.....	D. L. Wishon.
Squirrel Inn	San Bernardino	5,280	2	63.2	.....	81	15	38	3	30	T.	.....	T.	0	0	26	4	1	sw.	A. D. Frantz.
Stanwood	Butte	2,140	8	72.4	.....	94	12	44	7	42	0.00	.....	0.00	0	0	31	0	0	s.	California Gas & Electric Co.
Stirling City	do	3,525	8	70.9	.....	99	15	48	21†	42	0.10	.....	0.10	0	1	24	7	0	se	Butte County R. R. Co.
Stockton (S. H.)	San Joaquin	23	41	71.2	− 1.4	99	16	53	1†	36	T.	0.00	T.	0	0	27	4	0	nw.	State Hospital.
Storey	Madera	296	12	76.6	− 2.1	109	16	49	31	46	0.00	0.00	0.00	0	0	31	0	0	.....	Santa Fe Co.
Suisun **	Solano	20	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Sulphur Banks	Lake	1,350	....	73.2	.....	100	17	48	1	40	0.00	.....	0.00	0	0	16	15	0	w.	J. T. LaBree.
Summerdale	Mariposa	5,270	16	65.1	− 2.5	87	16	42	3	28	0.00	− 0.03	0.00	0	0	22	6	2	w.	Bertus Gude, jr.
Summit	Placer	7,017	39	50.2	−10.8	68	9†	30	1†	33	0.30	+ 0.14	0.30	0	1	28	0	3	sw.	Southern Pacific Co.
Susanville	Lassen	4,175	23	64.4	− 5.7	90	16	33	1	40	0.15	− 0.01	0.15	0	1	25	6	0	sw.	James Branham.
Tamarack	Alpine	8,000	6	53.2	.....	80	16	24	1	40	0.68	.....	0.40	4.0	3	16	10	5	sw.	California Gas & Electric Co.
Tehachapi **	Kern	3,964	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Tehama	Tehama	220	41	81.8	− 2.3	103	16	60	1	....	0.00	− 0.06	0.00	0	0	27	1	3	n.	Do.
Tejon Rancho	Kern	1,500	10	71.1	.....	87	17	53	2	21	0.00	.....	0.00	0	0	25	0	6	n.	S. E. Bailey.
Three Rivers	Tulare	870	2	77.2	.....	109	16	47	3	46	T.	.....	T.	0	0	20	10	1	sw.	E. D. Barton.
Towle	Placer	3,704	26	66.1	− 4.6	95	17	40	1	35	0.00	− 0.02	0.00	0	0	31	0	0	sw.	Southern Pacific Co.
Tracy **	San Joaquin	64	32	78.6	− 1.3	105	15	60	3†	....	0.00	0.00	0.00	0	0	16	15	0	nw.	Do.
Ukiah	Mendocino	620	19	70.9	− 0.4	104	15	42	1	55	0.00	− 0.02	0.00	0	0	24	7	0	nw.	Dr. Geo. McCowen.
Upper Lake	Lake	1,350	27	71.6	− 2.3	105	16	41	1	51	0.00	− 0.02	0.00	0	0	30	1	0	nw.	C. M. Hammond.
Vacaville	Solano	175	24	73.2	− 2.3	107	16	49	3	49	0.00	0.00	0.00	0	0	29	2	0	sw.	G. C. Coburn.
Valley Springs **	Calaveras	673	23	78.5	− 1.5	104	16	65	30	....	0.00	− 0.01	0.00	0	0	26	5	0	nw.	Southern Pacific Co.
Visalia	Tulare	334	24	70.9	− 9.1	104	16	32	31	63	0.00	− 0.02	0.00	0	0	21	10	0	se.	Santa Fe Co.
Warner Springs	San Diego	3,165	4	69.6	.....	96	14	44	23	39	0.66	.....	0.60	0	2	21	8	2	.....	Mrs. F. S. Sandford.
Wasco (B. R.)	Kern	336	12	.....	.....	.....	.....	.....	.....	.....	0.00	0.00	0.00	0	0	.....	.....	.....	.....	Santa Fe Co.
Watsonville	Santa Cruz	23	16	73.8	+11.4	85	20†	32	1	50	0.00	0.00	0.00	0	0	8	23	0	w.	Spreckels Sugar Co.
Weaverville	Trinity	.....	.....	66.8	.....	93	9†	37	1	45	0.01	.....	0.01	0	1	25	4	2	w.	U. S. Forest Service.
Weitchpec	Humboldt	1,700	2	65.9	.....	95	15†	40	1	40	0.00	.....	0.00	0	0	26	5	0	sw.	M. E. Lathrop.
Westley **	Stanislaus	90	23	78.3	− 4.4	105	16	60	12	....	0.00	− 0.02	0.00	0	0	30	0	1	n.	Southern Pacific Co.
Wheatland	Yuba	84	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William Lumbard.
Willows	Glenn	136	33	80.2	− 2.7	112	16	55	4†	44	T.	0.00	T.	0	0	30	1	0	se.	E. C. Mills.
Yosemite	Mariposa	3,945	8	61.6	.....	100	16	33	2	58	0.00	.....	0.00	0	0	28	0	3	s.	J. P. Kelley.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 11, California.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon.																																	
Klamath Agency	Klamath																		.03	.05	.80	.07	.03										0.80
Klamath Falls	do																																0.18
Lakeview	Pitt																																
Long Valley	do																																
Merrill	Int. drainage																							.25									0.25
Yonna	do		.03																	.27													0.30
California.																																	
Aguanga	Coast																		.32														0.32
Alameda	do																																
Alturas	Sacramento		.01																.60	.03													0.64
Angels Camp	San Joaquin													T.	T.	T.																	T.
Angiola	do																																0.00
Antelope Valley	do																																0.00
Antioch	do																																0.00
Aptos	Coast																																0.00
Arrowhead Springs	do																																0.00
Auburn	Sacramento																																0.00
Avalon	Ocean																																
Azusa	Coast																																
Bagdad	Desert													.30					.70														1.00
Bakersfield	San Joaquin																																0.00
Barstow	Desert																																
Bear River	San Joaquin															T.		T.															T.
Bear Valley (1)	Sacramento																																
Bear Valley (2)	San Joaquin																																
Bear Valley Dam	do																	.31												.05			0.36
Beaumont	do																																
Beaumont (near)	do																																0.00
Belotta	do								T.						T.																		T.
Ben Lomond	Coast																																0.00
Berkeley	do																																0.00
Biggs	Sacramento																																
Bishop	Owens																																0.00
Bishop Creek	do																T.																T.
Blocksburg	Coast																		.18														0.18
Blue Canon	Sacramento																	T.	T.											T.	T.		T.
Blythe	Desert												T.	T.																			0.00
Boulder Creek	Coast																														T.		T.
Branscomb	do																													T.			T.
Brawley	Desert												T.					T.															0.00
Burney	Sacramento																																
Butte Valley	do																																
Cahuilla	Coast												.12		T.																		0.12
Calexico	Desert												T.			.19																	0.19
Caliente	San Joaquin																																0.00
Calistoga	Coast																	T.															0.00
Campbell	do																																T.
Campo	do																												.15				0.15
Camptonville (near)	Sacramento																	.03															0.03
Cedarville	Mtn. Lakes	.07																.01	.08												T.		0.16
Chester	Sacramento																		T.														T.
Chico	do																	T.															T.
Chico (near)	do																	T.															T.
China Flat	Coast																																0.00
Chino	do																																0.00
Cisco	Sacramento																																0.00
Claremont	Coast																																0.00
Cloverdale	do																																0.00
Coalinga	San Joaquin																	T.															T.
Colfax	Sacramento																																0.00
Colgate	do																																
Colusa	do																																0.00
Corning	do																																
Corona	Coast																																
Cuyamaca	do																																0.00
Davisville	Sacramento																	.03		.01													0.04
Deer Creek	do																																0.00
Del Monte	Coast																	T.															T.
Delta	Sacramento																																0.00
Denair	San Joaquin																	.05															0.05
De Sabla	Sacramento																																
Descanso	Coast																																0.00
Devils Canon	do																																0.00
Dinuba	San Joaquin																																0.00
Dobbins	Sacramento																	T.		T.													T.
Downieville	do																																0.00
Dudley	San Joaquin																	.03												T.			0.03
Dudleys	do																T.																T.
Dunlap (near)	do																																0.00
Dunnigan	Sacramento																		1.00	.94													1.94
Dunsmuir	do																T.	.02															0.02
Durham	do																																0.00
East Park	do																																0.33
Edgewood	do																	.03	.28			.02											0.00
Edison	San Joaquin																																0.00
El Cajon	Coast																																T.
Electra	San Joaquin																	T.															T.
Elsinore	Coast																	T.												T.			T.
Emigrant Gap	Sacramento																																0.00
Escondido	Coast																																0.00
Eureka	do	.01	.01			.01													.01											.01			0.05
Fairmont	do																																0.00
Farmington	San Joaquin																																0.00
Felton	Coast																																
Firebaugh	San Joaquin																	.02															0.02
Folsom	Sacramento																	.20												T.			0.20
Fordyce Dam	do																		T.	T.													T.
Fort Bidwell	Mtn. Lakes																																0.00
Fort Bragg	Coast																																0.00
Fort Ross	do																																

TABLE 2.—*Daily precipitation for July, 1912. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Contd.																																	
Fouts Springs	Sacramento																														T.		0.00
Fredalba	Coast																																T.
Fresno	San Joaquin																T.	T.															T.
Friant	....do																																
Galt	....do																																
Georgetown	....do																	.03															0.03
Gilroy	Coast																																0.00
Gilta	....do																	.03	.01														0.04
Glendora	....do																																
Glen Ranch	....do																																0.00
Glennville	San Joaquin																T.																T.
Glenwood	Coast																																0.00
Gold Run	Sacramento																	T.															T.
Gonzales	Coast																																0.00
Grass Valley	Sacramento																	.06															0.06
Greenland Ranch	Desert																																
Greenville	Sacramento																	T.	T.														T.
Gridley	....do																																0.00
Groveland	San Joaquin																T.	T.															T.
Guinda	Sacramento																																
Hanford	San Joaquin																																
Head Dam	Sacramento																	.01															0.01
Healdsburg	Coast																														T.		T.
Hearst	....do																														.01		0.01
Heber	Desert												.02																	T.			0.02
Helen Mine	Coast																																
Hetch Hetchy	San Joaquin																																
Holcomb	Coast																T.	.11	.08											.23	.04		0.46
Hollister	....do																																0.00
Hornbrook	Klamath																																†0.40
Hot Springs	San Joaquin																																0.00
Hullville	Coast																																0.00
Idyllwild	....do																																
Independence	Owens																																
Indio	Desert													.04																			0.04
Inskip	Sacramento															T.		.06															0.06
Ione	San Joaquin																																0.00
Jacksonville	....do																																0.00
Jamestown	....do																T.																T.
Jenny Lind	....do																																0.00
Jolon	Coast																																0.00
Julian	....do																	.25	.60														0.85
Kennedy Mine	San Joaquin																																0.00
Kennett	Sacramento																	T.	T.												T.		T.
Kentfield	Coast																																0.00
Kernville	San Joaquin																																0.00
King City	Coast																																0.00
Knights Landing	Sacramento																	T.															T.
La Grange	....do																																0.00
La Jolla	Coast			.18																													0.18
Lake Eleanor	San Joaquin																																
Lakeside	Coast																																
La Porte	....do																																
Lathrop	San Joaquin																																0.00
Laurel	Coast																																0.00
Laytonville	....do																																
Le Grand	San Joaquin																																
Lemon Cove	....do																																0.00
Lick Observatory	Coast																																0.00
Livermore	....do																															T.	T.
Lodi	San Joaquin																																0.00
Lone Pine	Owens																	.08	T.														0.08
Long Valley	Mtn. Lakes												.16	T.			T.	T.	.10	T.													0.26
Lordsburg	Coast																																0.00
Los Alamos	....do																																
Los Angeles	....do																T.	T.												T.			T.
Los Banos	San Joaquin																																
Los Gatos	Coast																																0.00
Los Molinos	Sacramento																																0.00
Lowe Observatory	Coast																																
McCloud	Sacramento																	.03														T.	0.03
McDoel	Klamath																																0.00
Magdeline	Mtn. Lakes																	T.	.05														0.05
Magalia	Sacramento																	T.	T.														T.
Mammoth Tank	Desert																																0.00
Maricopa	San Joaquin																																0.00
Mariposa	....do																	.03															0.03
Marysville	Sacramento																																0.00
Mecca	Desert												T.					T.												T.			T.
Melones	San Joaquin																																0.00
Menlo Park	Coast																																0.00
Merced	San Joaquin																																
Merced Falls	....do																																
Mesa Grande	Coast			.16														.08															0.24
Middlewater	San Joaquin																																0.00
Mill Creek (1)	....do																	.06															0.06
Mill Creek (2)	Coast																													T.			T.
Mills College	....do																	T.															T.
Milo	San Joaquin																																0.00
Milton (near)	....do															T.	T.																T.
Modesto	....do																																0.00
Mojave	Desert																																0.00
Mokelumne Hill	San Joaquin													T.				T.															T.
Mono Ranch	Coast															T.																	T.
Montague	Klamath		T.															T.			T.	.06										.01	0.07
Monterey	Coast																																0.00
Monterio	San Joaquin																																0.00
Montgomery Creek	Sacramento																																
Mount Tamalpais	Coast																																0.00
Mount St. Helena	....do																																0.00
Napa City	....do																																0.00

TABLE 2.—*Daily precipitation for July, 1912. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Contd.																																	
Napa (S. H.)	Coast																									.25				.11	.91		0.00
Needles	Desert																	.07															1.34
Nellie	Coast			T.																										T.			T.
Nevada City	Sacramento																	.03												T.			0.03
Newhall	Coast																																0.00
Newman	San Joaquin																																0.00
North Bloomfield	Sacramento																																0.00
North Fork	San Joaquin																																
North Lakeport	Coast																																0.00
Oakdale	San Joaquin										T.	T.																					T.
Oak Grove	Coast												.08		.02				.23														0.33
Oakland	do																													T.	T.	T.	T.
Oakville	do																																0.00
Oceanside	do																.02	T.											T.	T.			0.02
Ojai Valley	do																	T.															T.
Orland	Sacramento																T.																T.
Orleans	Klamath																	.05	.03														0.08
Oroville	Sacramento																	T.															T.
Ozeana	Coast																																0.00
Palermo	Sacramento																																0 00
Palm Springs	Desert													.04																			0.04
Parkfield	Coast																																0.00
Pasadena	do																													T.			T.
Paso Robles	do																																
Peachland	do													.02																			0.02
Phoenix Dam	San Joaquin																																0.00
Pilot Creek	Sacramento										T.							.05															0.05
Pinchot	Coast																																0.00
Pine Crest	do																																0.00
Placerville	Sacramento																	.01															0.01
Point Lobos	Coast																														T.	T.	T.
Point Loma	do			.02														.15													T.	T.	0.17
Point Reyes	do												.01	.03																			0.04
Porterville	San Joaquin																	T.															T.
Portulaca	do																																
Prattville	Sacramento		.01															.30												T.			0.31
Priest Valley	Coast																																
Quincy	Sacramento																	.15	.18														0.33
Red Bluff	do																	T.	.04														0.04
Redding	do																	T.		.02	T.												0.02
Redlands	Coast			T.													T.	T.	.16											T.			0.16
Reedley	San Joaquin																																0.30
Represa	Sacramento																	.03															0.00
Rialto (near)	Coast			11													T.	T.												T.			0.10
Rio Vista	Sacramento																																0.01
Riverside	Coast																																0.00
Rocklin	Sacramento																	.01															0.00
Rohnerville	Coast																T.																T.
Sacramento	Sacramento																																0.00
St. Helena	Coast																																0.00
Salinas	do																																0.00
San Bernardino	do																																0.00
San Diego	do			.02														.12															0.14
San Francisco	do																														T.	T.	T.
San Jacinto	do																																0.00
San Jose	do																															T.	T.
San Luis Obispo	do		T.																														T.
San Mateo	do																																
San Miguel	do																																0.00
San Miguel Island	Ocean																																0.00
Sanger	San Joaquin																																0.00
Santa Ana River	Coast																													.01			0.01
Santa Barbara	do											T.																					T.
Santa Clara	do																																0.00
Santa Cruz	do																																0.00
Santa Margarita	do																																
Santa Maria	do																																0.00
Santa Monica	do																																0.00
Santa Rosa	do																																0.00
Sausalito	do																																0.00
Selma	San Joaquin																																0.00
Seven Oaks	Coast																		.09										.18				0.27
Shasta	Sacramento																																0.00
Shingle Springs	San Joaquin																																
Shrively	Coast																																
Sierra Madre	do																	T.												T.			T.
Sierraville	Mtn. Lakes																																0.00
Sisquoc Ranch	Coast																																0.00
Sisson	Sacramento																		.48														0.48
Soledad	Coast																																0.00
Sonora	San Joaquin																																0.00
Southeast Farallon	Ocean																													.01		T.	0.01
Spreckles	Coast																																0.00
Springville	San Joaquin																	T.															T.
Squirrel Inn	Coast																T.													T.			T.
Stanwood	Sacramento																																0.00
Stirling City	do																	.10															0.10
Stockton (S. H.)	San Joaquin																T.																T.
Storey	do																																0.00
Suisun	Sacramento																																
Sulphur Banks	do																																0.00
Summerdale	San Joaquin																																0.00
Summit (1)	Sacramento																.30																0.30
Summit (2)	Coast																																
Susanville	Mtn. Lakes																			.15													0.15
Tamarack	Sacramento			.40													.03	.25		T.													0.68
Tehachapi	San Joaquin																																
Tehama	Sacramento																																0.00
Tejon Rancho	San Joaquin																																0.00
Three Rivers	do																	T.															T.
Towle	Sacramento																																0.00
Tracy	San Joaquin																																0.00

TABLE 2.—*Daily precipitation for July, 1912. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Contd.																																	
Tulare	San Joaquin.																																
Tustin (near)	Coast																																0.00
Ukiah	do																																0.00
Upper Lake	Sacramento.																																0.00
Upper Matole	Coast																																0.00
Vacaville	Sacramento.																																0.00
Valley Springs	San Joaquin.																																0.00
Visalia	do																																0.00
Warner Springs	Coast			.06										T.					.60											T.			0.66
Wasco	San Joaquin.																																0.00
Watsonville	Coast																																0.00
Weaverville	do																	T.	.01														0.01
Weitchpec	Klamath																																0.00
West Branch	Sacramento.																	T.															T.
Westley	San Joaquin.																																0.00
West Point	do																					T.											T.
West Saticoy	Coast																																0.00
Wheatland	Sacramento.																																
Willows	do																	T.															T.
Yosemite	San Joaquin.																																0.00

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 11, California.*

Date.	Lakeview, Oreg.		California.																							
			Alturas.§		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1			68	32			71	38	100	66			58	47	88	55			74	55	67	54	77	35	88	58	83	59
2			67	42			73	40	91	65			59	51	86	59			67	58	69	52	78	35	90	59	83	65
3			71	34			79	41	85	65			57	51	85	55			67	57	69	52	83	42	92	60	86	64
4			83	34			81	41	95	57			58	51	92	60			72	55	74	61	86	42	99	62	93	63
5			82	45			79	42	101	62			58	51	98	63			77	55	72	62	86	45	103	64	92	63
6			80	46			78	44	101	68			57	50	98	65			77	56	70	57	88	45	103	65	91	65
7			79	39			80	43	102	64			58	48	98	62			75	57	77	62	86	44	104	66	94	65
8			82	39			82	44	103	62			58	50	98	66			73	56	72	59	89	45	107	64	96	68
9			88	38			85	47	105	67			54	49	98	61			76	56	67	47	89	47	102	64	96	65
10			88	44			87	47	109	74			54	47	97	62			79	59	71	55	90	48	101	64	95	63
11			87	46			88	48	109	79			56	46	98	63			80	60	71	62	88	56	101	63	93	65
12			92	45			88	49	100	80			55	49	98	65			79	58	72	58	92	48	102	64	98	62
13			91	54			89	49	95	75			55	48	98	63			77	55	64	45	88	49	100	62	95	65
14			91	49			90	50	100	73			56	48	100	60			84	59	79	59	89	49	104	59	106	65
15			94	48			90	52	107	76			59	48	104	68			89	65	86	68	94	51	107	62	106	70
16			99	46			95	60	105	77			61	50	109	76			92	65	84	74	95	55	113	73	109	75
17			94	52			93	60	96	77			58	50	102	78			86	65	75	65	94	62	106	79	91	78
18			87	54			84	49	102	76			62	53	101	72			87	65	74	65	90	57	103	75	99	67
19			82	49			79	45	105	76			62	56	99	69			86	65	75	59	88	55	104	69	95	68
20			84	47			75	43		76			66	56	97	65			86	64	66	55	85	49	98	64	88	62
21			78	41			70	43	108				65	50	91	62			80	61	62	53	81	43	98	58	85	61
22			76	40			70	45	105	71			64	54	90	61			78	58	62	51	81	43	92	56	86	60
23			82	41			69	43	102	70			62	53	93	59			79	57	63	49	82	42	97	56	87	59
24			82	41			68	42	99	70			65	52	91	59			80	57	62	48	86	43	95	57	86	56
25			84	41			75	43	99	75			62	56	94	59			77	59	69	54	86	43	97	58	88	60
26			86	43			79	45	101	75			62	54	97	60			77	58	74	56	88	44	103	58	93	61
27			91	43			86	46					59	55	99	63			75	57	76	64	89	45	101	60	99	61
28			97	49			88	45	103				59	54	101	64			77	58	83	70	90	46	102	60	101	66
29			92	57			80	44	103	73			57	53	99	71			76	61	73	52	92	53	104	63	96	66
30			92	57			77	47	101	77			57	54	95	61			78	61	64	47	87	52	102	60	89	60
31			86	46			70	46	104	77			60	54	87	60			78	59	55	47	80	45	98	57	86	60
Mns.			85.0	44.6			80.6	45.8	101.2[b]	71.6[c]			59.1	51.2	96.2	63.4			78.6	59.1	71.2	56.8	87.0	47.0	99.9	62.5	92.9	64.1

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	84	50	83	58	66	59	71	52	81	46	75	45	68	53	81	48	65	38	83	53	58	30	68	33	93	35
2	73	54	83	57	66	59	64	51	75	49	57	50	66	58	81	47	66	37	83	56	63	32	71	41	89	33
3	66	55	86	54	64	59	65	51	80	50	65	51	66	49	79	47	70	40	84	54	57	30	79	39	90	34
4	82	54	87	55	69	60	60	51	80	50	70	48	66	54	81	45	79	45	90	55	66	33	78	39	92	38
5	95	52	87	55	69	59	62	50	81	52	80	78	68	55	76	50	74	52	91	56	65	32	80	40	93	39
6	90	54	86	53	65	58	61	50	82	48	73	48	75	55	82	44	75	45	90	54	63	35	79	47	95	42
7	87	56	90	55	68	60	65	51	81	48	68	48	67	54	78	46	75	47	90	56	65	40	81	47	94	40
8	87	51	89	56	69	59	65	51	83	51	68	50	64	53	74	47	76	46	89	56	67	38	82	45	90	38
9	93	52	86	55	70	59	61	52	81	52	75	51	69	52	76	52	78	47	87	54	68	37	83	45	91	40
10	97	61	84	55	70	61	60	52	75	52	78	51	75	55	71	50	82	42	80	55	60	41	85	45	92	41
11	94	59	87	57	72	62	59	49	75	52	71	53	76	54	71	50	81	40	85	56	68	40	85	53	90	40
12	95	56	86	53	71	63	57	49	77	49	72	52	70	56	74	50	82	43	87	54	60	43	86	49	91	39
13	92	57	84	54	72	63	64	52	80	51	71	52	68	55	80	47	84	45	83	54	61	42	85	55	89	42
14	98	58	95	55	78	62	67	55	80	53	79	48	80	51	82	48	85	46	94	54	59	43	87	52	90	43
15	100	62	103	63	85	66	68	52	89	53	87	52	87	57	92	46	90	50	98	63	60	38	86	52	91	45
16	94	65	98	70	75	66	70	53	89	58	82	54	82	53	91	53	92	58	99	71	67	41	90	48	100	49
17	94	66	98	64	75	64	61	53	77	58	77	54	81	59	79	53	74	54	94	64	52	38	88	49	95	52
18	97	67	89	59	76	67	62	53	75	57	78	53	80	57	75	52	78	45	89	63	58	37	85	55	90	48
19	97	65	86	58	78	65	64	54	73	53	77	52	80	59	77	50	83	47	88	60	64	43	83	42	87	49
20	96	63	84	54	76	66	65	53	74	47	78	50	75	58	85	48	77	43	84	56	64	44	82	50	87	47
21	93	58	82	57	71	64	64	52	76	50	75	47	72	56	80	45	74	41	81	57	61	39	82	42	87	44
22	87	53	81	56	71	61	65	54	74	51	74	41	70	54	76	61	71	43	79	56	60	35	73	40	86	42
23	90	54	80	57	71	61	65	54	73	49	73	51	70	54	75	44	71	44	80	56	63	38	78	40	85	40
24	90	52	80	55	72	63	66	54	73	52	71	55	75	52	75	52	76	46	82	53	62	36	77	42	88	41
25	88	54	84	56	71	64	65	55	75	50	78	54	72	52	78	45	76	42	82	56	59	40	79	40	87	41
26	91	58	90	56	73	64	64	52	78	47	78	50	68	57	82	44	77	46	86	54	62	37	84	55	89	43
27	91	54	95	56	70	64	64	51	80	48	72	52	66	55	84	42	84	49	90	55	63	40	87	60	88	44
28	85	57	93	55	72	63	58	52	77	54	72	51	68	56	81	50	87	50	93	54	66	42	89	49	95	49
29	81	60	77	54	71	63	60	52	71	54	70	53	70	55	68	50	84	49	79	53	63	44	87	49	92	47
30	88	62	79	54	71	63	64	55	74	58	70	53	74	52	71	53	80	51	79	53	58	41	87	50	90	48
31	90	56	74	56	72	62	64	55	72	58	67	54	76	53	71	55	81	52	70	56	59	40	86	49	90	48
Means	89.8	57.3	86.6	56.5	71.6	62.2	63.5	52.3	77.8	51.6	73.6	51.0	72.4	54.6	78.3	48.8	78.3	45.9	86.1	56.4	62.0	38.4	82.3	46.5	90.5	42.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR JULY, 1912.

DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

The month was cool and wet, with an unusually large number of thunderstorms, which is in contradistinction to the conditions prevailing during the same month a year ago when the weather was warm and dry and very few thunderstorms occurred. The rainfall was unevenly distributed, there being a few places where it was excessive and partook of the nature of "cloudbursts," while in a few other localities no rain fell during the entire month. Fortunately the cloudbursts occurred in sparsely settled places, mostly in Oregon and Idaho, and the damage done was insignificant. At Boise the rainfall was excessive for about 1 hour on the night of 30–31, and is the only excessive rainfall ever recorded at that station. While the unusually large amount of precipitation was harmful to the grain crop and hindered its harvest, this drawback was much more than made up by the beneficial effects in the dry farming areas, and the good it did to pasturage and to late crops in general. Also, irrigated sections and placer mining interests profited by the abundance of rain in localities where a shortage of water is usually experienced during dry summers. The outlook from an agricultural standpoint, so far as staple crops are concerned, was considered to be exceptionally good at the close of the month. No serious interruptions to transportation or construction work were reported. No forest fires gained any headway, and the atmosphere was unusually free from smoke or haze, but the sunshine in nearly all sections was below the average.

TEMPERATURE.

Temperatures averaged much below the normal all over the upper Columbia and Snake River drainage areas and in central Oregon. The coolest weather, as compared with the normal, was in Idaho, where it was from 2° to 3° below the July average. In Montana this was the coolest July for 15 years, and in Idaho the coolest since 1903. West of the Cascade Mountains the weather was also cooler than usual in a majority of places, although many localities showed average conditions. There was no very hot weather during the month, but there were two pronounced warm periods, when temperatures in the nineties were experienced over most of the district. Minimum temperatures for the month occurred as a rule during the opening days. The region having the highest mean temperature was the Yakima Valley and the Columbia River lands between Priest Rapids and The Dalles. Mean temperatures of 70° and over were general over this area. Cool weather with temperatures ranging from 56° to 60° prevailed in the coast region. The mean temperature for the district, determined from 258 stations, was 64.6°, which is 1.6° below the normal. The highest temperature of the month was 107°, recorded at two stations, Blalock, Oreg., on the 16th, and Kennewick, Wash., on the 20th. The lowest temperature was 22° at Loon Creek, Idaho, on the 3d. The highest mean temperature was 76.4° at Blalock, and the lowest was 52.0 at Moran, Wyo.

PRECIPITATION.

Showers were frequent in the Montana watershed, and the total rainfall greatly exceeded the average. In Idaho July was the wettest month on record with one exception. The amounts were unevenly distributed over Oregon and Washington, in some cases being largely deficient and in others they were above the normal. The rainfall was most abundant in northwestern Washington, in parts of the Blue Mountains, in Montana, and in the upper Snake River watershed. In the latter regions the amounts were the largest, approximating 3 inches. Several cloudbursts were reported from places in Idaho and eastern Oregon, and a notable one occurred in Asotin Creek Canyon, Asotin County, Wash., but none was destructive. The month opened with a general wet period, lasting from one to two weeks over most districts. There was a second rainy period lasting from the 18th to 25th, and showers were fairly general again during the closing days of the month. Very little rain fell during the month in the Columbia River district of southeastern Washington, and almost none at all in Josephine and Curry Counties, in Oregon. The average precipitation, determined from 359 stations, was 0.99 inch, or 0.26 inch above the normal. The largest monthly amount was 4.05 inches at Snake River, Wyo., and none occurred at Mountain Ranch, Oreg. The greatest 24-hour rainfall was 1.42 inches at Almo, Idaho.

MISCELLANEOUS PHENOMENA.

Thunderstorms were of more than ordinary frequency. In Oregon and Washington they occurred mainly on the 2d and 3d, from the 19th to the 22d, and on the 30th and 31st. In Idaho a number occurred on the opening days of the month, but the period in which a majority were reported was from the 20th to the end of the month. Hail occurred in connection with a good many of these storms. The highest wind of the month was 52 miles per hour from the southwest at Walla Walla, Wash., on the 20th. Velocities over 30 miles per hour were recorded at Boise, Pocatello, Lewiston, Seattle, Spokane, North Head, and Tatoosh Island on different dates.

THE RIVERS.

All the rivers in this district fell steadily during July, except the Kootenai at Bonners Ferry, which rose slightly about the middle of the month. The fall in the Willamette River was less marked than it was in the Columbia and Snake Rivers.

The Willamette River averaged 0.3 foot above normal. The highest stage at Portland was 16.6 feet on the 1st, and the lowest was 7.4 feet on the 31st. The highest water at Salem was 3.1 feet on the 2d, and the lowest was 0.7 on the 31st.

The Columbia River averaged 3.3 feet below its monthly normal. The greatest departure in its lower course was 5.1 feet below normal at The Dalles and Cascade Locks, and for its upper course 5.4 feet below normal at Northport, Wash. The highest stage at Vancouver was 17 feet on the 1st and at Wenatchee 31.1 feet on the 2d. The lowest water at Vancouver was 7.5 feet on the 31st and at Wenatchee 19 feet on the same date. The highest and lowest stages at Northport, Wash., were 21.3 feet and 9.3 feet on the 1st and 31st, respectively.

The Snake River averaged slightly above normal, and it was 5.5 feet to 8.6 feet lower than in June. The highest stage at Lewiston was 10 feet on the 1st, and the lowest stage 2.7 on the 31st. Navigation was suspended on the lower Snake shortly after the middle of the month on account of the low stages in the river.

RECONNOISSANCE OF THE DESCHUTES RIVER IN JULY, 1912.

By JOHN H. LEWIS, State Engineer and Secretary of the State Land Board.

That there is some truth in the statement that the Deschutes River is the most wonderful stream in the world is the opinion derived from a 10-days' trip covering its entire drainage basin.

Building is active in most of the Crook County towns, and many acres are now being cleared and put into crops for the first time. Perhaps the greatest area cleared this season is along Squaw Creek, near Sisters, as a result of the recent adjudication of water rights by the board of control. Those having incomplete rights must put the water to use this fall or it will revert to the new appropriators, who are eagerly awaiting the chance of using the water. The recent rain has given to the dry-farming sections a prosperous look, and the building of the North Canal diversion insures the irrigated section near Bend a reliable water supply.

This present development is nothing when compared with the possibilities for future development.

The Deschutes River at Benham Falls has a mean annual discharge of 1,220,000 acre-feet of water, as shown by eight years' records. The minimum year furnished 1,070,000 acre-feet, so that it is safe to say that there is available at this point for irrigation purposes 1,000,000 acre-feet of water. This will irrigate 333,000 acres of land, or a strip 1 mile wide and 520 miles long.

The regular flow will ultimately irrigate about 120,000 acres between Bend and Crooked River. Every drop of the remaining water can and should be stored for irrigation purposes through the construction of a 60-foot dam at Benham Falls. This could be released in the summer and diverted near Cline Falls for the irrigation of 110,000 acres on Agency Plain, for the irrigation of 50,000 to 100,000 acres on the west side of the Deschutes River and north of Laidlaw and, by diverting above Bend, 50,000 acres could be irrigated in the Benham Falls segregation just south of Prineville. There are no great engineering difficulties to be overcome in the construction of this project, and it appears that it is one of the cheapest in the State to construct.

The entire flow near the head of the river can be used for the irrigation of about 60,000 acres above the Benham Falls reservoir without materially affecting the above figures, as the seepage would be collected in the reservoir below.

Between Benham Falls and Cline Falls there is 1,300 feet fall. About 60 per cent of the 1,000,000 acre-feet of water would be discharged through the dam for irrigation purposes during July and August, and would be available for the development of power, which can be transmitted economically two to four hundred miles for the pumping of water to irrigate other lands, say along the Columbia River. This water at a 100-foot drop immediately below the dam would furnish 56,800 horsepower, which at 50 per cent of plant efficiency will lift 2,500 second-feet 100 feet above the Columbia River for the irrigation of 200,000 acres of land. There is another fall of 100 feet a short distance below and above the first diversion for irrigation, and the amount of summer power which can be developed in the 1,300 feet fall to the last diversion at Cline Falls is almost inconceivable.

For the greatest good to the greatest number the Deschutes River between Cline Falls and the junction with Crooked River should be dried up except for seepage water. Below this point the river is of most value for power, and the total possible diversions for irrigation outlined above, without considering return seepage, will not seriously affect its value for such purpose, but, with return seepage, may improve the power value of the lower river.

Sixteen dam sites have been located in the narrow rock-walled canyon from the Columbia River to just below the junction of the Metolius with the Deschutes River. With 4,000 second-feet at the 1,300 feet of fall which can be developed at these sites 600,000 theoretical horsepower can be generated. With the low and high year flow equalized at the Benham Falls reservoir and with a 120-foot dam in the Crooked River about 40 miles above Prineville, this low water flow can be increased to about 6,000 second-feet and the power to nearly 900,000 horsepower. This is about six times the present installed steam and hydroelectric machine capacity in the vicinity of Portland and about 40 times the low-water power development at Oregon City. Besides this, an enormous quantity of power can be developed on the Metolius River and at other points.

These possibilities could be greatly complicated by development at the wrong time and place, and if carried out under our present wasteful system of competition the expense to the public will be greatly increased through lack of harmony between plants.

The above information, though preliminary, has been gathered by the State and the U. S. Geological Survey acting in cooperation. A complete report will be available early next year. This stream affords a striking example where to secure the highest, most logical, and orderly development; the entire stream should be turned over to one corporation subject to regulation, or else developed by the public as the need arises. To promote the immediate and best use of this stream is one of the problems which should receive careful consideration at the hands of the State legislature.

TABLE 1.—*Climatological data for July, 1912. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,300	10	59.7	− 3.1	87	25†	35	8	42	1.78	+ 0.57	0.43	0	12	7	18	6	.....	C. D. Demond.
Butte	Silverbow	5,716	17	60.4	− 3.1	87	28	38	9	38	1.63	+ 0.40	0.30	0	10	12	7	12	nw.	J. R. Wharton.
Columbia Falls	Flathead	3,106	16	60.2	− 3.6	96	30	31	4	46	2.67	+ 1.13	0.42	0	12	12	6	13	sw.	J. M. Grist.
Como	Ravalli	3,700	3	62.6	.....	92	30	40	9	37	0.86	.....	0.39	0	7	15	6	10	.....	Hiram Platt.
Dayton	Flathead	.....	7	61.8	.....	86	30	40	14	36	2.77	.....	1.39	0	7	18a	6a	6a	.....	A. J. Ruechell.
East Anaconda	Deer Lodge	5,500	6	59.0	.....	85	30	35	14	33	2.51	.....	.....	.....	10	7	18	6	w.	C. D. Demond,
Fortine	Lincoln	2,975	6	58.6	.....	90	30	30	14	51	3.24	.....	0.70	0	14	8	9	14	sw.	Mike Petery.
Hamilton	Ravalli	3,575	9	63.0	− 2.6	89	30	41	2†	38	1.28	− 0.13	0.70	0	8	17	5	9	n.	Hamilton Cham. of Com.
Hat Creek	Powell	6,000	2	.....	.....	.....	.....	.....	.....	.....	2.40	.....	0.60	0	12	6	14	11	w.	M. K. Landreth.
Haugan	Missoula	3,150	....	59.0	.....	95	29†	32	12	50	0.89	.....	0.32	0	10	13	14	4	sw.	U. S. Forest Service.
Heron	Sanders	2,261	....	62.8	.....	96	30	39	2	53	2.16	.....	0.47	0	12	18a	3a	9a	sw.	E. Knott.
Kalispell	Flathead	2,965	13	60.5	− 3.8	90	30	40	14	40	1.56	+ 0.72	0.39	0	12	2	16	13	w.	U. S. Weather Bureau.
Libby	Lincoln	2,055	2	62.1	.....	98	30	36	28	56	1.01	.....	0.30	0	10	5	23	3	.....	U. S. Forest Service.
Lost Creek	Deer Lodge	5,200	2	.....	.....	.....	.....	.....	.....	.....	1.78	.....	0.76	0	6	16	7	8	w.	Frank Henault.
Missoula	Missoula	3,225	32	63.4	− 3.7	96	30	40	6	46	1.94	+ 0.85	0.62	0	13	.....	.....	.....	.....	U. S. Weather Bureau.
Ophir	Powell	6,800	3	.....	.....	.....	.....	.....	.....	.....	3.23	.....	0.85	0	12	15	10	6	w.	E. S. Wilton.
Ovando	....do	4,207	12	58.6	− 1.5	93	30	33	6	52	1.15	+ 0.03	0.40	0	9	0a	30a	0a	w.	S. B. Muchmore.
Philipsburg	Granite	5,275	8	58.6b	.....	90b	26	34b	9	46b	2.30	.....	0.82	0	8	14e	3e	7e	sw.	G. T. Bramble.
Plains	Sanders	2,475	13	61.6i	− 4.0	94i	30	38i	3	41i	.....	.....	.....	.....	.....	9i	0i	13i	sw.	M. H. Pierce.
Pleasant Valley	Flathead	3,500	4	57.4	.....	92	30	30	28	57	1.89	.....	0.31	0	13	11	5	15	.....	A. D. Stillman.
Polson	....do	2,920	4	65.1	.....	85	15†	42	6	37	1.29	.....	0.38	0	6	.....	.....	.....	.....	F. P. Brown.
St. Ignatius	Missoula	2,700	6	62.2	.....	87	30	40	9	41	2.75	.....	0.77	0	10	14	13	4	nw.	U. S. Reclamation Service.
Saltese	....do	3,600	7	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.52	0	3	23	0	8	w.	E. K. Tarbox.
Stevensville	Ravalli	.....	....	62.0	.....	93	30	40	2†	41	1.40	.....	0.71	0	9	20	4	7	w.	University Orchard Co.
Thompson Falls	Sanders	2,462	....	63.8	.....	98	30	39	6	54	1.12	.....	0.47	0	9	15	11	5	w.	U. S. Forest Service.
Willow Glen Stock Farm.	Deer Lodge	5,064	1	57.2	.....	86	29	29	12	41	.....	.....	.....	.....	.....	13	8	10	ne.	G. E. Luce.
Wyoming.																				
Afton	Uinta	6,200	8	.....	.....	86	27	.....	.....	.....	2.21	.....	0.95	0	7	17	1	13	w.	A. V. Call.
Alta	....do	7,000	2	56.1	.....	83	28	29	9	45	2.44	.....	0.80	0	11	12	10	9	sw.	Mrs. Lucy Brown.
Bechler River	Yellowstone Park	.....	....	.....	.....	.....	.....	.....	.....	.....	3.80	.....	1.20	0	10	13	13	5	sw.	U. S. Army.
Bedford	Uinta	5,900	12	57.6	− 2.0	81	17†	34	5	42	1.97	+ 1.16	0.78	0	6	15	7	5	w.	C. G. Heiner.
Moran	....do	.....	....	52.0	.....	87	18	32	10	48	2.05	.....	0.51	0	10	4	13	14	.....	U. S. Reclamation Service.
Snake River	Yellowstone Park	7,000	6	57.1	.....	84	28†	31	9	44	4.05	.....	1.23	0	10	14	8	9	w.	U. S. Army.
Nevada.																				
San Jacinto	Elko	.....	7	.....	.....	82	23†	.....	.....	.....	0.09	.....	0.07	0	2	25	0	6	nw.	Marriner Browning.
Utah.																				
Standrod	Boxelder	.....	7	64.0	.....	89	28	39	1†	35	2.01	.....	0.95	0	9	18	4	9	sw.	T. B. Jones.
Idaho.																				
Albion	Cassia	4,650	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. E. Bocock.
Almo	....do	.....	3	.....	.....	.....	.....	.....	.....	.....	3.62	.....	1.42	0	6	14	8	9	.....	Wm. D. Cahoon.
American Falls	Oneida	4,341	21	64.4	− 4.7	99	28	34	9	56	2.76	+ 2.17	0.98	0	8	20	8	3	ne.	Geo. Stoll.
Arrow Rock	Boise	3,100	....	69.4	.....	101	17†	38	18	57	0.87	.....	0.65	0	3	27	1	3	w.	U. S. Reclamation Service.
Blackfoot	Bingham	4,503	16	60.9	− 7.0	93	28	30	9	55	2.19	+ 1.62	0.87	0	7	17	11	3	sw.	E. A. Dowd.
Blackfoot Dam	Bannock	6,200	3	58.8	.....	84	17	28	9	43	2.45	.....	1.15	0	9	16	3	12	.....	S. C. Waddell.
Bogus Creek	Boise	4,200	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. P. Ingraham.
Boise	Ada	2,739	27	68.8	− 4.0	97	17	40	3	36	1.27	+ 1.09	1.27	0	2	11	12	8	nw.	U. S. Weather Bureau.
Bonners Ferry	Bonner	1,850	5	60.4	.....	93	30	37	13	47	1.83	.....	0.57	0	9	14	7	10	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800	3	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.60	0	3	20	8	3	.....	Patrick Moriarty.
Buhl	Twin Falls	3,800	5	68.4	.....	97	17	39	3	44	0.18	.....	0.10	0	5	23	6	2	w.	S. C. Orr.
Caldwell	Canyon	2,372	8	67.8	.....	98	17	38	3	47	1.22	.....	1.12	0	5	8	22	1	w.	Wm. J. Boone.
Caldwell Ex. Station	do	.....	....	68.3	.....	99	17	36	3	49	0.79	.....	0.58	0	4	.....	.....	.....	.....	C. B. Hampson.
Camas	Fremont	4,815	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Ednah Faulkner.
Cambridge	Washington	2,651	16	67.8	− 4.3	102	29	35	3	49	0.65	+ 0.32	0.27	0	4	.....	.....	.....	.....	C. H. Shepherd.
Cedar Creek Dam	Twin Falls	5,220	2	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.12	0	3	14	11	6	w.	Robert Hoffman.
Chesterfield	Bannock	5,424	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. S. West.
Clarks Fork	Bonner	2,084	....	62.3	.....	87	30	41	2	39	1.80	.....	0.50	0	10	13	14	4	.....	Wm. Potter.
Clyde	Custer	6,000	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. L. Sutcliffe.
Council	Adams	3,059	....	68.2c	.....	100c	28	39c	3	48c	0.89	.....	0.45	0	4	.....	.....	.....	n.	F. L. Featherston.
Culdesac	Nez Perce	1,520	4	66.2a	.....	102a	29	41a	4†	50a	0.54	.....	0.44	0	2	.....	.....	.....	.....	Mrs. B. B. Caldwell.
Deary	Latah	2,854	....	61.7	.....	99	30	34	2	51	0.62	.....	0.51	0	2	11	18	2	sw.	W. J. Davis.
Dent	Clearwater	1,350	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Emil Schuessler.
Driggs	Fremont	6,097	5	57.6	.....	83	26†	29	9	44	2.97	.....	0.90	0	6	10	7	14	sw.	W. H. Durant.
Emmett	Canyon	2,350	5	69.0	.....	102	18	38	3	47	0.89	.....	0.84	0	2	14	15	2	s.	U. S. Forest Service.
Forney	Lemhi	6,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. B. Merritt.
Garden Valley	Boise	3,600	4	.....	.....	.....	.....	.....	.....	.....	1.02	.....	0.63	0	3	16	12	3	.....	Mrs. Gertrude M. Ross.
Garnet	Elmore	2,575	13	73.9	− 4.9	105	17	43	3	49	.....	.....	.....	0	....	26	0	5	.....	A. A. Kenison.
Glenns Ferry	....do	2,569	4	71.2	.....	104	17	37	2	54	0.55	.....	0.55	0	1	23	4	4	.....	I. E. Perkins.
Gooding	Lincoln	3,572	3	66.9	.....	103	28	35	2†	54	0.33	.....	0.20	0	4	18	10	3	w.	John Krall, jr.
Grand Forks	Shoshone	3,000	3	57.6e	.....	94e	29†	33e	1	56e	1.25	.....	0.48	0	.....	.....	.....	.....	sw.	F. W. Beier.
Grandview	Owyhee	.....	3	69.0	.....	103	17	38a	3	55a	0.32	.....	0.18	0	5	22	4	5	nw.	N. G. Massey.
Grimes Pass	Boise	5,200	3	.....	.....	.....	.....	.....	.....	.....	0.76	.....	0.53	0	4	.....	.....	.....	.....	Jos. M. Clarke.
Guffey	Owyhee	2,381	4	72.4	.....	102	17	41	3	51	0.73	.....	0.47	0	4	26	4	1	nw.	Fred Perry.
Hailey	Blaine	5,347	10	64.8	− 2.5	95	17†	35	2	45	1.43	+ 0.91	1.22	0	3	10	15	6	sw.	U. S. Forest Service.
Hollister	Twin Falls	4,550	....	66.2	.....	96	19	33	3	44	0.66	.....	0.34	0	5	10	19	2	w.	J. W. Bouten.
Hotspring	Owyhee	2,590	7	70.7	.....	100	17	42	2†	45	0.63	.....	0.63	0	1	13	13	5	.....	J. M. Waterhouse.
Idaho Falls	Bonneville	4,742	17	65.0	− 2.4	94	29	35	2†	44	1.60	+ 1.02	1.07	0	6	14	4	13	ne.	Dr. T. M. Bridges.
Indian Valley	Adams	2,999	3	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.24	0	4	23	3	5	n.	A. M. Henke.
Irwin	Bonneville	6,500	3	62.3	.....	92	17	34	11	50	2.01	.....	0.38	0	10	.....	.....	.....	.....	Eva Johnston.
Kellogg	Shoshone	2,305	8	62.0	.....	96	30	39	4†	50	1.40	.....	0.38	0	7	13	1	17	.....	W. McM. Huff.
Kirkham	Boise	4,200	3	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.30	0	2	14	12	5	w.	Mrs. Josie B. West.
Kooskia	Idaho	1,261	4	67.6	.....	101	29	43	2	53	1.20	.....	0.45	0	5	11	13	7	.....	U. S. Forest Service.
Lakeview	Bonner	2,250	15	62.6	− 2.5	88	30	40	1	37	2.06	+ 0.98	0.70	0	8	12	8	11	sw.	E. D. Faust.
Landore	Adams	5,300	8	56.6	.....	86	17†	31	3	42	1.33	.....	0.40	T.	6	15	14	2	.....	Mrs Emma L. Brown.
Leadore	Lemhi	.....	....	56.4	.....	89	26	30	2†	55	1.18	.....	0.65	0	10	13	11	7	w.	Jos. Balluff.
Lewiston	Nez Perce	757	12	71.4	− 2.2	101	29	48	2	43	0.24	−0.18	0.14	0	4	14	6	11	e.	U. S. Weather Bureau.
Little Camas	Elmore	5,000	3	.....	.....	.....	.....	.....	.....	.....	0.96	.....	0.88	T.	3	6	14	11	w.	Solon McCoy.
Loon Creek	Custer	6,000	3	55.5a	.....	92a	28	22a	3	59a	.....	.....	.....	T.	.....	.....	.....	.....	.....	Mrs. Mary Williams.
Mackay	....do	5,897	5	62.4e	.....	92e	31	35e	2†	44e	0.74	.....	0.64	0	2	.....	.....	.....	nw.	U. S. Forest Service.
Meridian	Ada	2,657	2	67.9	.....	98	17	37	3	46	0.16	.....	0.14	0	3	17	9	5	nw.	A. W. Garrett.
Mesa	Adams	3,275	2	69.4f	.....	101f	29	39f	3	36f	.....	.....	.....	0	.....	.....	.....	.....	n.	I. S. Carter.
Middle Fork	Idaho	1,397	2	68.8	.....	100	29	46	9	49	1.38	.....	0.46	0	9	.....	.....	.....	.....	Jos. McGhee.

TABLE 1.—*Climatological data for July, 1912. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Idaho—Continued.																				
Milner	Twin Falls	4,110	8	67.6	.....	98	28†	33	2	44	0.49	.....	0.29	0	5	16	10	5	w.	J. K. Young.
Moscow	Latah	2,748	20	63.4	− 3.1	95	31	39	2	40	0.44	− 0.29	0.18	0	3	15	9	7	se.	University of Idaho.
Mountainhome	Elmore	3,150	7	66.2	.....	99	28	35	9	55	0.67	.....	0.52	0	2	19	9	3	.....	Mrs. Ellen Manion.
Murtaugh	Twin Falls	.....	6	63.8[d]	.....	95[d]	28	35[d]	2	48[d]	0.26	.....	0.26	0	1	.....	.....	.....	w.	J. E. Steinour.
New Meadows	Adams	3,950	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. G. Dunn.
Nezperce	Lewis	3,082	3	61.2	.....	89	30	34	1†	43	1.09	.....	0.35	0	8	21	4	6	.....	P. Mitchell.
Oakley	Cassia	4,700	19	67.0	− 3.5	95	17	39	3	45	2.77	+ 2.22	1.25	0	5	11	16	4	.....	John Adams.
O'Hara Bar	Idaho	1,557	2	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.60	0	.....	.....	.....	.....	.....	J. D. Agnew.
Orofino	Clearwater	1,027	8	67.6	.....	98	29†	43	10	46	0.68	.....	0.36	0	5	12	19	0	.....	Geo. Alteneder.
Payette	Canyon	2,159	22	69.0	− 4.6	101	17	36	3	50	0.26	− 0.05	0.14	0	3	15	10	6	n.	E. F. Allen.
Pebble	Bannock	5,277	3	.....	.....	.....	.....	.....	.....	.....	1.77	.....	.....	0	.....	.....	.....	.....	.....	Alexander McQueen.
Pierson	Custer	7,000	2	56.2	.....	87	28	27	6	51	0.89	.....	0.49	2.0	3	25	3	3	.....	David P. Clarke.
Pleasant Valley	Ada	3,000	5	66.0	.....	100	17	30	3†	51	0.93	.....	0.87	0	2	23	6	2	nw.	C. E. Friedrich.
Pocatello	Bannock	4,483	13	67.4	− 3.8	93	28	42	9	39	1.63	+ 1.00	0.77	0	7	14	9	8	se.	U. S. Weather Bureau.
Pocatello Nursery	do	5,396	5	62.2	.....	89	17	35	2	42	2.50	.....	0.63	0	9	15	11	5	sw.	Mrs. Fannie E. Say.
Poplar	Bonneville	5,500	2	64.0	.....	91	17†	35	2	45	1.01	.....	0.65	0	5	13	13	5	sw.	C. M. Lawrence.
Porthill	Bonner	1,665	23	61.8	− 4.0	85	30	41	3	39	2.44	+ 1.30	0.60	0	11	11	9	11	.....	H. A. French.
Priest River Experiment Station:																				
No. 1	do	2,500	....	61.2	.....	86	30	39	2†	36	2.58	.....	0.72	0	14	7	10	14	sw.	D. R. Brewster.
No. 2	do	2,500	....	62.4	.....	96	30	37	3	47	2.43	.....	0.64	0	14	8	14	9	sw.	Do.
No. 3	do	.....	....	60.6	.....	94	30	34	14	54	2.58	.....	0.69	0	16	8	11	12	se.	Do.
Pyle Creek	Boise	3,100	3	.....	.....	.....	.....	.....	.....	.....	0.92	.....	0.62	0	5	18	6	7	s.	P. V. Smith.
Richfield	Lincoln	4,306	3	65.6	.....	97	28	33	3	48	0.54	.....	0.44	0	3	19	8	4	sw.	Idaho Irrigation Co.
Roseberry	Boise	4,872	1	55.4	.....	90	17	26	23	53	0.95	.....	0.43	0	7	16	9	6	n.	Dr. Wallace Johnson.
Roseworth	Twin Falls	4,650	....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	0.38	0	2	4	23	4	nw.	D. B. Hartwell.
Rupert	Lincoln	4,204	6	65.2	.....	95	28	34	2	49	1.55	.....	0.85	0	5	20	4	7	sw.	Will Parry.
St. Anthony	Fremont	4,968	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Heber C. Sharp.
St. Maries	Kootenai	2,263	15	64.7	− 1.1	92	30	42	2†	42	1.08	0.00	0.50	0	6	9	9	13	w.	J. S. Turnbull.
Salmon	Lemhi	4,040	7	65.0	.....	97	28	39	9	44	0.89	.....	0.85	0	2	24	6	1	nw.	B. C. d'Easum.
Sandpoint	Bonner	2,086	2	61.5	.....	91	30	38	2†	48	1.97	.....	0.56	0	9	12	5	14	n.	J. H. Edgerton.
Sheep Hill	Boise	5,000	3	.....	.....	.....	.....	.....	.....	.....	1.24	.....	1.03	0	4	.....	.....	.....	.....	C. M. Gardner.
Shoshone	Lincoln	3,968	4	65.0	.....	90	17	36	3	37	0.01	.....	0.01	0	1	15	16	0	w.	Zell Truman.
Silver City	Owyhee	6,280	5	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.38	0	4	21	5	5	s.	A. D. Bradfield.
Smith Prairie	Elmore	5,200	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. W. Newell.
Soldier Creek	Blaine	5,755	2	59.1[i]	.....	87[i]	28	32[i]	2	44[i]	3.07	.....	2.79	0	4	.....	.....	.....	nw.	J. E. Minear.
Spirit Lake	Kootenai	2,560	2	61.3	.....	90	19†	35	27†	55	2.15	.....	1.08	0	8	21	4	6	ne.	M. C. Krause.
Springfield	Bingham	4,420	4	66.4	.....	96	28	33	9	51	1.53	.....	1.08	0	3	13	12	6	sw.	Mrs. W. A. Edwards.
Sugar	Fremont	4,892	5	63.0	.....	91	24†	34	9	46	2.02	.....	1.30	0	4	23	1	7	sw.	Utah-Idaho Sugar Co.
Sunnyside	Elmore	3,500	3	69.8	.....	101	17†	35	8	60	1.58	.....	1.10	0	3	.....	.....	.....	nw.	Col. M. W. Wood.
Tripod Mountain	Boise	4,300	3	.....	.....	.....	.....	.....	.....	.....	1.21	.....	0.91	0	3	20	6	5	.....	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	7	67.0	.....	97	28	39	2	53	0.48	.....	0.35	0	3	12	18	1	sw.	J. A. Waters.
Vernon	Fremont	5,050	14	60.6	− 3.4	89	28	34	9	42	1.83	+ 1.14	0.57	0	5	15	12	4	sw.	A. M. Slatery.
Wallace	Shoshone	2,728	5	61.5	.....	96	30	38	2†	48	1.21	.....	0.47	0	9	.....	.....	.....	w.	U. S. Weather Bureau.
Weiser	Washington	2,114	....	72.4	.....	106	17	37	3	52	0.09	.....	0.05	0	2	13	10	8	se.	J. W. Lapish.
Wendell	Lincoln	3,400	4	67.8	.....	103	28	34	2†	55	0.04	.....	0.04	0	1	14	16	1	w.	Chas. L. Dingler.
Washington.																				
Aberdeen	Chehalis	162	21	60.4[g]	+ 0.3	96	17	45	6†	42	1.34	+ 0.43	.....	0	....	5[f]	20[f]	0[f]	w.	C. S. Weatherwax.
Anacortes	Skagit	60	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baker	do	200	6	64.8	.....	98	17	47	6	43	1.36	.....	0.37	0	6	16	2	13	.....	R. M. White.
Bellingham	Whatcom	60	17	64.0	+ 3.2	92	17	46	9	37	1.33	+ 0.57	0.58	0	7	21	7	3	.....	Sanford B. Mayhew.
Bellingham (near)	do	107	....	61.8	.....	89	17	42	7†	37	.....	.....	.....	0	....	14	10	7	.....	U.S.Bureau Plant Industry.
Blaine	do	57	15	60.8	− 0.1	90	17	42	29	38	1.50	− 0.35	0.50	0	10	13	11	7	sw.	John W. Sheets.
Blewett	Chelan	2,200	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bremerton	Kitsap	30	....	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.41	0	6	.....	.....	.....	.....	U. S. Navy Yard.
Brewster	Okanogan	1,620	2	69.6	.....	99	30	47	1	40	0.70	.....	0.20	0	8	18	10	3	sw.	Mrs. H. F. Bertram.
Bumping Lake	Yakima	3,400	....	58.0	.....	90	30	33	7	43	0.05	.....	0.02	0	3	16	2	13	.....	U. S. Reclamation Service.
Cedar River	King	535	5	.....	.....	.....	.....	.....	.....	.....	1.16	.....	0.38	0	8	14	5	12	.....	Geo. Landsburg.
Centralia	Lewis	212	19	64.0	− 0.3	99	18	42	10†	45	0.58	− 0.09	0.15	0	6	14	7	10	w.	I. S. Turner.
Cheney	Spokane	2,351	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cle Elum	Kittitas	1,930	13	62.3	− 1.5	97	30	36	25	56	0.42	+ 0.07	0.38	0	2	25	6	0	sw.	J. A. Belmer.
Clearbrook	Whatcom	140	9	61.2	.....	91	17†	40	6†	43	3.05	.....	0.76	0	10	12	9	10	s.	Geo. Gibbs.
Colfax	Whitman	2,300	23	64.8	0.0	100	30	35	27	56	0.34	− 0.30	0.15	0	5	18[a]	5[a]	7[a]	sw.	I. B. Doolittle.
Colville	Stevens	1,635	12	64.9	− 3.2	95	20	40	3	43	2.93	+ 1.74	0.78	0	9	14	5	12	sw.	W. L. Sax.
Colville Forest Sta	do	.....	....	62.8	.....	90	30	38	3†	47	.....	.....	.....	.....	.....	11	2	18	s.	U. S. Forest Service.
Conconully	Okanogan	2,300	12	65.2	− 1.3	94	30	44	1	43	1.97	+ 0.87	0.41	0	13	14	5	12	.....	Wm. Baines.
Cowiche	Yakima	1,874	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crescent	Lincoln	2,250	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Darrington	Snohomish	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Davenport	Lincoln	2,450	3	64.8[a]	.....	94	30	37[a]	5	44[a]	0.49	.....	0.21	0	3	15	11	5	.....	J. L. Thayer.
Dayton	Columbia	1,700	26	68.0	− 1.5	95	29	43	4	37	0.68	+ 0.07	0.38	0	4	11	19	1	sw.	W. W. Hendron.
Deer Park	Spokane	2,050	3	62.9	.....	94	30	38	3†	51	1.13	.....	0.44	0	7	26	2	3	sw.	Robert Allison, jr.
Detroit	Mason	30	4	64.0	.....	96	18	43	6	43	1.36	.....	0.45	0	4	17	5	9	s.	Walter O. Eckert.
Dixie	Walla Walla	5,000	3	.....	.....	.....	.....	.....	.....	.....	1.62	.....	0.93	0	5	15	3	13	sw.	T. Z. Andrews.
Douglas Lake	Skagit	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dryden	Chelan	960	2	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.52	0	5	25	3	3	nw.	Wenatchee Valley Gas & Electric Co.
Duckabush	Jefferson	380	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ellensburg	Kittitas	1,571	24	66.5	+ 0.1	98	30	43	4†	49	0.38	+ 0.10	0.23	0	2	25	5	1	nw.	R. L. Barnes.
Ephrata	Grant	1,265	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Forks	Clallam	480	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Simcoe	Yakima	1,427	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gerome	Stevens	2,900	3	67.1	.....	94	30	42	3†	43	0.85	.....	0.35	0	6	15	9	7	.....	J. H. C. Scurlock.
Goat Lake	Snohomish	2,900	3	.....	.....	.....	.....	.....	.....	.....	3.89	.....	0.92	0	11	.....	.....	.....	.....	C. M. Mackintosh.
Gold Basin	do	1,360	....	60.4	.....	93	17	42	3†	45	1.38	.....	0.42	0	5	20	7	4	nw.	U. S. Forest Service.
Gold Creek	Yakima	2,600	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goldendale	Klickitat	1,600	6	66.6	.....	97	16†	38	3	46	0.14	− 0.03	0.08	0	2	8	21	2	w.	Klickitat Co. Abstract Co.
Granite Falls	Snohomish	397	9	.....	.....	.....	.....	.....	.....	.....	2.08	.....	0.56	0	8	11	11	9	nw.	C. H. Cleaver.
Grays River	Wahkikuk	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guler	Klickitat	2,200	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hanford	Benton	.....	....	74.8	.....	104	29	47	2	50	0.09	.....	0.09	0	1	17	9	5	nw.	F. L. Bash.
Hatton	Adams	1,100	7	69.6	.....	102	29†	40	2	52	0.30	.....	0.13	0	4	13	8	10	sw.	A. V. Marion.
Huntsville	Columbia	1,400	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Irene Mountain	Okanogan	3,015	3	.....	.....	.....	.....	.....	.....	.....	2.67	.....	0.66	0	11	9	9	13	s.	Mrs. Manda Shain.
Kennewick	Benton	368	17	74.8[e]	− 2.8	107[e]	20	49[e]	5†	49[e]	0.10	− 0.03	0.07	0	3	15[e]	4[e]	7[e]	.....	R. E. Reed.
Kent	King	.....	....	63.0	.....	93	18	41	8	39	0.99	.....	0.49	0	6	14	8	9	n.	A. O. Jeffries.

TABLE 1.—*Climatological data for July, 1912. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Washington—Contd.																		
Kettle Falls	Stevens	1,265	3	66.8	.....	98	30	44	6	50	1.96	.....	0.46	0	8	14	13	4	.....	Harry S. Cole.
Kiona	Benton	430	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kosmos	Lewis	775	6	63.4	.....	98	17	42	14	47	1.52	.....	10.1	0	8	10	16	5	ne.	J. A. Ulsh.
La Center	Clarke	250	15	61.9	− 2.9	96	17	42	6	44	0.85	+ 0.08	0.39	0	6	12	16	3	sw.	Joseph Brothers.
La Crosse	Whitman	1,400	3	66.6	.....	99	30	39	4†	47	0.55	.....	0.41	0	3	16	8	7	w.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	3	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.04	0	5	10	6	15	nw.	U. S. Reclamation Service.
Lake Kachess	....do	2,335	4	61.6	.....	96	30	38	26	46	0.32	.....	0.14	0	5	19	2	10	w.	U. S. Reclamation Service.
Lake Keechelus	....do	2,479	4	.....	.....	.....	.....	.....	.....	.....	0.41	.....	0.17	0	3	16	5	10	w.	U. S. Reclamation Service.
Lakeside	Chelan	1,116	21	71.8	− 1.1	99	30	49	2	38	0.15	+ 0.19	0.13	0	2	11	17	3	w.	W. H. VanMeter.
Laurel	Klickitat	1,900	3	.....	.....	.....	.....	.....	.....	.....	0.29	.....	0.18	0	4	13	18	0	w.	Mrs. Minnie E. Strout.
Laurier	Ferry	1,644	2	64.9	.....	97	30†	41	3	49	2.14	.....	0.59	.....	14	6	7	18	s.	Mrs. J. S. Myers.
Lone Tree	Chehalis	14	3	59.4	.....	85	17	49	11	27	1.50	.....	0.74	0	8	7	16	8	nw.	U. S. Engineers Corps.
Longmires Springs	Pierre	2,800	3	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.50	0	2	.....	.....	.....	.....	National Park Ranger.
Lost Creek	Okanogan	3,125	3	.....	.....	.....	.....	.....	.....	.....	1.24	.....	1.06	0	8	12	10	9	.....	P. H. Leese.
McConihe	Grant	1,072	....	71.6	.....	101	30	42	2	47	0.12	.....	0.12	0	1	17	5	9	w.	Lucien McConihe.
McCumbers Ranch	Yakima	2,182	3	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.30	0	1	13	17	1	w.	Mrs. Mary McCumber.
Moses Lake	Grant	.....	....	71.6	.....	105	29	39	2	50	0.04	.....	0.04	0	1	26	1	4	sw.	C. C. Ward.
Mottinger	Benton	307	12	74.2	− 1.7	103	16	52	1†	42	0.07	− 0.12	0.05	0	2	21	9	1	w.	G. H. Mottinger.
Mount Pleasant	Clallam	500	....	60.2	.....	84	15†	40	6	29	1.29	.....	0.65	0	7	17	4	10	nw.	Wm. M. Dorr.
Moxee	Yakima	1,000	20	70.2	− 1.1	101	16†	43	3	51	0.29	+ 0.03	0.16	0	3	16	9	6	w.	H. B. Scudder.
Newport	Stevens	2,400	2	62.0	.....	94	30	38	27	51	2.49	.....	1.14	0	12	15	11	5	sw.	Chas. M. Talmadge.
North Head	Pacific	211	10	56.8	− 0.9	75	17	51	12	20	0.94	+ 0.40	0.22	0	10	4	8	19	nw.	U. S. Weather Bureau.
Northport	Stevens	1,350	13	66.7	.....	99	30	45	2	44	1.48	+ 0.06	0.54	0	10	14	16	1	.....	W. F. Case.
North Yakima	Yakima	1,070	3	71.2	.....	98	16	48	3†	41	0.22	.....	0.15	0	2	22	6	3	nw.	Albert Bender.
Nutland	Klickitat	.....	3	70.9	.....	101	17	50	1†	41	0.39	.....	0.18	0	4	.....	.....	.....	.....	Miss Ruth Shepard.
Odessa	Lincoln	1,540	9	68.2	.....	99	29†	39	3	50	0.19	.....	0.07	0	5	12	18	1	sw.	H. W. Rieke.
Olga	San Juan	50	22	59.8	+ 0.4	84	17	43	6	25	1.28	+ 0.55	0.78	0	6	17	11	3	s.	Cecil S. Willis.
Olympia	Thurston	200	34	63.8	+ 0.8	96	18	40	6	45	1.63	+ 0.94	0.70	0	5	17	2	12	sw.	M. O'Conner.
Omak	Okanogan	850	3	69.8	.....	102	30	43	6	50	1.90	.....	0.68	0	6	16	9	6	n.	Saint John Umbrite.
Oroville	....do	922	3	72.1	.....	98	29	50	14	41	1.37	.....	0.75	0	6	11	6	14	n.	M. C. Jackman.
Peola	Garfield	5,000	3	.....	.....	.....	.....	.....	.....	.....	1.97	.....	0.72	0	7	19	9	3	nw.	Samuel Gruell, sr.
Pomeroy	....do	1,500	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Crescent	Clallam	200	17	55.8	− 0.5	84	17	40	8	33	1.35	+ 0.74	0.58	0	8	7	14	10	nw.	U. S. Weather Bureau.
Port Townsend	Jefferson	80	22	60.7	− 0.2	84	17	45	9	30	0.93	+ 0.18	0.55	0	6	17	3	11	nw.	F. Plummer.
Prosser	Benton	650	....	72.2	.....	102	16†	46	8	50	.....	.....	.....	0	.....	23	4	4	.....	E. L. Capps.
Pullman	Whitman	2,550	20	66.3	− 1.2	99	30	41	2	44	0.28	−0.36	0.10	0	5	23	5	3	sw.	State Agricultural College.
Queets River	Chehalis	16	....	58.0	.....	84	17	41	8	35	2.77	.....	0.91	0	13	10	9	12	w.	C. A. Bullard.
Quiniault	....do	300	5	63.0	.....	98	17	43	1	43	2.81	.....	0.68	0	9	13	11	7	w.	A. V. Higley.
Republic	Ferry	2,628	12	62.0	− 2.6	96	30	36	3	54	2.29	.....	0.58	0	13	15	8	8	s.	Geo. B. Stocking.
Rex Creek	Chelan	1,135	4	67.0[d]	.....	91[d]	15	48[d]	1	31[d]	0.72	.....	0.40	0	4	12[d]	4[d]	11[d]	nw.	James W. Nicol.
Ritzville	Adams	1,825	13	.....	.....	.....	.....	.....	.....	.....	0.09	.....	0.09	0	1	.....	.....	.....	.....	Agent N. P. Ry.
Robertsville	Klickitat	.....	....	61.6	.....	97	16	37	8	48	0.30	.....	0.25	0	2	16	15	0	.....	R. R. Couger.
Rock Lake	Whitman	1,910	6	66.1	.....	96	30	41	5	43	0.47	.....	0.16	0	4	15	5	11	sw.	P. M. Ramsey.
Rosalia	....do	2,425	20	64.9	− 0.1	94	30	38	2	40	1.00	+ 0.12	0.65	0	6	16	10	5	sw.	Hans Mumm.
Russells Ranch	Yakima	2,870	3	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.32	0	4	19	9	3	w.	Mrs. Adella Russell.
Seattle	King	123	20	63.4	− 0.1	87	18	50	7	25	1.15	+ 0.46	0.50	0	11	10	9	12	n.	U. S. Weather Bureau.
Sedro Woolley	Skagit	38	15	62.6	+ 0.2	89	18	42	6	39	1.18	− 0.23	0.37	0	7	14	10	7	.....	Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	5	74.8	.....	102	25	46	1†	36	0.24	.....	0.16	0	3	28	0	3	ne.	C. E. Comstock.
Skagit Power Dam	Whatcom	510	2	66.0	.....	96	17†	43	27	42	2.16	.....	0.64	0	9	16	5	10	.....	C. B. Emery.
Snohomish	Snohomish	100	18	62.4	− 0.3	93	30	37	27†	49	2.15	+ 0.96	0.80	0	6	14	10	7	nw.	James Bylling.
Snoqualmie Falls	King	667	12	65.1	.....	95	18	44	8	42	0.99	− 0.20	0.30	0	9	19	0	12	.....	O. N. Wiswell.
Snoqualmie Pass	....do	3,000	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Snyders Ranch	Okanogan	2,200	3	61.4	.....	97	30	34	6	57	0.45	.....	0.33	0	3	18	10	3	e.	Geo. M. Snyder.
South Bend	Pacific	.....	17	61.4	− 1.2	92	16	46	30	39	1.01	− 0.01	0.31	0	9	12	9	10	w.	Winifred E. Buckingham.
Spokane	Spokane	1,943	31	66.6	− 2.2	94	30	43	2	38	1.30	+ 0.63	0.45	0	10	9	14	8	sw.	U. S. Weather Bureau.
State University	King	170	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stokes Ranch	Okanogan	2,670	3	.....	.....	.....	.....	.....	.....	.....	1.02	.....	0.40	0	5	9	20	2	w.	Chas. W. Gunn.
Sumner	Pierce	77	4	62.8	.....	92	18	39	8	40	1.50	.....	0.56	0	8	13	8	10	w.	H. E. Thompson.
Sunnyside	Yakima	740	17	69.7	− 2.0	98	16†	40	28	54	0.45	+ 0.22	0.27	0	4	16	13	2	nw.	U. S. Reclamation Service.
Tacoma	Pierce	213	26	63.2	− 0.2	92	18	47	8	29	1.21	+ 0.55	0.53	0	6	13	5	13	n.	U. S. Weather Bureau.
Tatoosh Island	Clallam	85	27	55.6	+ 0.5	82	17	47	19	29	1.48	− 0.30	0.86	0	12	5	9	17	s.	Do.
Tieton	Yakima	2,000	3	63.4	.....	94	29	36	6	46	0.53	.....	0.32	0	3	18	8	5	w.	U. S. Reclamation Service.
Tonasket	Okanogan	945	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Touchet	Walla Walla	556	5	70.4	.....	101	29	44	8†	54	0.05	.....	0.03	0	2	15	14	2	sw.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500	3	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.20	0	5	13	14	4	n.	R. H. King.
Trinidad	Douglas	900	8	75.2	.....	101	29	43	5	34	0.62	.....	0.31	0	2	24	6	1	nw.	J. C. Wheeler.
Vancouver	Clarke	100	37	66.8	− 0.2	97	17	50	3†	44	0.88	− 0.04	0.48	0	6	12	8	11	nw.	A. A. Quarmberg.
Vashon Island	King	40	23	61.2	− 1.8	82	18	45	8	28	0.98	+ 0.44	0.47	0	8	13	6	12	n.	Miss Gertrude McClintock.
Wahluke	Grant	410	8	73.6	.....	101	29	49	2†	44	0.12	.....	0.12	0	1	14	6	11	.....	F. C. Koppen.
Wallace	Okanogan	4,000	3	.....	.....	.....	.....	.....	.....	.....	3.59	.....	0.98	0	9	15	11	5	s.	Geo. A. Wallace.
Walla Walla	Walla Walla	1,000	28	72.6	− 1.5	100	29	49	2	39	0.59	+ 0.20	0.28	0	4	17	8	6	sw.	U. S. Weather Bureau.
Washougal	Skamania	650	12	64.4	− 0.9	89	16†	46	6	36	0.49	− 0.65	0.35	0	4	18	4	9	w.	F. M. Grout.
Waterville	Douglas	2,624	22	64.4[a]	+ 2.3	98	30	40[b]	6	47[b]	0.67	+ 0.22	0.42	0	3	24[c]	3[c]	1[c]	w.	O. R. Hopewell.
Wenatchee	Chelan	.....	....	72.4	.....	106	30	50	1†	46	0.53	.....	0.35	0	4	19	10	2	n.	A. A. Piper.
Wenatchee (near)	....do	1,169	13	68.2	− 1.3	95	30	47	2	31	0.70	+ 0.27	0.31	0	5	16	11	4	w.	Geo. A. Pitcher.
White Salmon	Klickitat	325	....	69.0	.....	102	18	45	2	44	0.09	.....	0.03	0	3	21	5	5	w.	C. W. J. Reckers.
Wilbur	Lincoln	2,203	13	64.5	0.0	98	30	34	2	47	1.03	+ 0.45	0.55	0	6	14	8	9	sw.	Rollin J. Reeves.
Wind River	Skamania	1,300	....	64.4	.....	95	15†	41	6	43	0.56	.....	0.29	0	4	12	7	12	se.	U. S. Forest Service.
Winthrop	Okanogan	1,765	....	67.3	.....	101	30	44	1	53	1.20	.....	0.40	0	7	19	9	3	.....	Methow Trading Co.
Yacolt	Clarke	.....	....	.....	.....	.....	.....	.....	.....	.....	0.48	.....	0.35	0	4	18	0	13	sw.	C. R. Miller.
Yale	Cowlitz	375	5	64.7	.....	95	14†	44	3	38	0.57	.....	0.36	0	5	15	6	10	sw.	J. A. Williams.
Zillah	Yakima	800	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oregon.																				
Albany	Linn	212	30	66.1	− 0.2	100	16	46	25	42	0.58	+ 0.09	0.24	0	8	15	7	9	n.	F. M. French.
Ashland	Jackson	1,963	28	68.2	− 1.6	98	16	43	1†	38	0.86	+ 0.40	0.50	0	3	16	11	4	nw.	G. G. Eubanks.
Astoria	Clatsop	16	51	61.0	− 0.6	87	15	50	6†	29	1.23	+ 0.18	0.39	0	8	17	4	10	nw.	Irving Club.
Austin	Grant	4,050	1	56.0	.....	89	16	30	9	54	0.73	.....	0.26	0	5	12	4	15	w.	U. S. Forest Service.
Avalon Orchard	Hood River	1,650	2	63.5	.....	94	16	38	2	44	0.26	.....	0.10	0	5	21	6	4	nw.	.....
Baker	Baker	3,466	22	62.2	− 2.8	89	16	38	1	40	1.65	+ 1.22	0.80	0	7	16	9	6	nw.	U. S. Weather Bureau.
Bay City	Tillamook	14	18	59.8	+ 0.5	83	15	44	6	34	0.81	− 0.83	0.40	0	8	13	5	13	nw.	John O. Bozorth.
Bend	Crook	3,629	8	62.4	.....	100	16	32	1†	54	1.11	.....	0.40	0	6	22	7	2	sw.	Bend Bulletin.
Black Butte	Lane	1,200	11	60.8	− 3.6	91	15	41	2	45	0.40	− 0.43	0.15	0	3	27	3	1	nw.	Wm. Harris.
Blalock	Gilliam	237	14	76.4[a]	− 1.6	107[a]	16	52[a]	3	42[a]	T.	− 0.13	T.	0	0	16	10	5	w.	Geo. W. Long.
Brogan	Malheur	2,600	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. B. Cox.
Buell	Polk	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. V. D. Paul.
Burns	Harney	4,157	21	.....	.....	.....	.....	36	1	.....	0.91	+ 0.70	0.50	0	4	12	13	6	.....	J. C. Welcome, jr.

TABLE 1.—*Climatological data for July, 1912. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Continued.																				
Cascade Locks	Hood River	100	22	66.0	− 1.9	94	15	49	3†	39	0.47	− 0.30	0.18	0	4	17	4	10	w.	Val. W. Tomkins.
Cazadero	Clackamas	503	3	65.0[a]	.....	95[b]	17	46	3	41	0.64	.....	0.23	0	8	14	2	15	nw.	Alf. Drill.
Cliff	Lake	4,300	5	58.5	.....	94	16†	28	3	57	0.59	.....	0.33	0	4	17	6	8	nw.	John C. Green.
Condon	Gilliam	2,884	5	63.2	.....	95	16	40	8†	43	0.90	.....	0.43	0	8	13	5	13	w.	C. H. Williams.
Corvallis	Benton	266	24	65.2	− 0.1	97	15	43	24	45	0.17	− 0.11	0.15	0	2	17	2	0	nw.	Oregon Agricultural College.
Crescent	Klamath	4,400	....	56.6	.....	95	16	26	9	60	0.26	.....	0.07	0	6	21	8	2	sw.	A. M. Caisse.
Dayville	Grant	2,200	18	64.3	− 4.6	94	16	40	9	47	0.52	− 0.33	0.13	0	7	16	11	4	nw.	Dr. J. Campbell-Martin.
Deadwood	Lane	350	2	63.8	.....	95	16	46	1†	38	0.34	.....	0.19	0	2	15	8	8	w.	Jos. Slemmons.
Doraville	Columbia	600	10	62.0	− 0.6	94	17	47	6†	35	1.75	+ 0.85	0.37	0	13	13	5	13	nw.	Jos. Hackenberg.
Drain	Douglas	300	10	65.0	.....	99	16	43	1	44	0.20	.....	0.12	0	3	11	13	7	nw.	Ira Wimberly.
Echo	Umatilla	625	8	71.4	.....	102	16	48	1†	46	0.35	.....	0.28	0	3	15	4	12	w.	R. B. Stanfield.
Ella	Morrow	830	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Carl F. Troedson.
Eugene	Lane	449	22	65.4	− 0.2	95	16	46	1	35	0.57	+ 0.03	0.36	0	4	17	5	9	nw.	University of Oregon.
Fairview	Coos	142	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Bettys.
Forest Grove	Washington	220	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Pacific University.
Gardiner	Douglas	72	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. S. Gray.
Glendale	....do	1,441	8	68.0	.....	105	16	41	1†	51	0.16	.....	0.12	0	2	23	8	0	nw.	B. J. Simpson.
Glenora	Tillamook	575	21	62.2	− 0.8	98	17	42	2†	50	1.49	+ 0.34	0.64	0	7	16	3	12	nw.	Mrs. Jennie A. Reeher.
Gold Beach	Curry	40	11	58.5	.....	72	15	45	1	25	0.20	− 0.05	0.20	0	1	30	1	0	n.	John W. Riley.
Grants Pass	Josephine	956	24	68.0	− 1.6	105	16	37	1	50	T.	− 0.11	T.	0	0	20	9	2	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	11	63.6	.....	98	15†	38	4†	53	0.14	.....	0.12	0	2	18	3	10	w.	Agent O.-W. R. & N. Co.
Gurdane	Umatilla	3,500	3	65.6	.....	91	16	43	1	31	0.29	.....	0.16	0	3	19	10	2	w.	Miss Belle Ely.
Headworks	Clackamas	719	10	63.6	.....	99	17	46	3†	45	0.92	− 0.45	0.30	0	6	18	4	9	sw.	Portland Water Works.
Heppner	Morrow	1,950	22	66.2	− 2.6	95	16	46	2	38	0.72	+ 0.15	0.35	0	7	13	16	2	w.	Frank Gilliam.
Hermiston	Umatilla	451	5	71.6	.....	101	16†	48	1†	50	0.03	.....	0.03	0	1	25	6	0	.....	C. W. Kellogg.
Hermoso Rio	Crook	2,110	2	65.2	.....	98	16	40	2†	50	0.11	.....	0.05	0	3	21	5	5	e.	Carl T. Hubbard.
Hood River	Hood River	300	22	68.9	+ 1.6	100	15†	42	2†	47	T.	− 0.19	T.	0	0	16	5	10	w.	H. L. Hasbrouck.
Hood River No. 2	....do	485	1	68.6	.....	101	18	46	2	45	0.02	.....	0.02	0	1	22	5	4	w.	W. H. Lawrence.
Hood River, No. 3	....do	620	1	67.6	.....	101	15†	40	2†	58	0.19	.....	0.10	0	2	16	15	0	nw.	W. A. Newman.
Hood River, No. 4	....do	850	1	66.4	.....	97	15†	41	2	45	0.24	.....	0.19	0	3	19	8	4	nw.	Fordham B. Kimball.
Huntington	Baker	2,165	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent O.-W. R. & N. Co.
Jacksonville	Jackson	1,640	24	68.6	− 1.3	99	16	39	1	41	0.03	− 0.16	0.03	0	1	21	6	4	.....	E. Britt.
Joseph	Wallowa	4,400	23	60.8	− 1.8	91	17	33	2	38	2.36	+ 1.45	0.72	0	10	11	7	13	s.	F. F. McCully.
Klamath Agency	Klamath	4,169	4	59.4	.....	92	19†	34	3	53	0.80	.....	0.80	0	1	25	6	0	s.	Edson C. Watson.
Klamath Falls	....do	4,100	23	63.6	− 4.5	95	16	33	1	35	0.18	− 0.02	0.07	0	4	19	8	4	nw.	Augusta J. Hayden.
La Grande	Union	2,784	24	64.2	− 4.5	94	29	39	1	44	1.36	+ 0.72	0.28	0	9	19	6	6	nw.	W. A. Worstell.
Lakeview	Lake	4,825	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ralph C. Koozer.
McKenzie Bridge	Lane	1,400	11	64.1	− 0.07	100	16†	37	26	54	0.92	− 0.24	0.40	0	7	14	0	17	sw.	Geo. Frissell.
McMinnville	Yamhill	182	25	65.6	+ 0.9	99	16	43	26	49	0.34	− 0.04	0.10	0	5	17	6	8	nw.	M. E. Pettit.
Marshfield	Coos	34	11	58.6	− 0.8	78	15	44	1†	32	0.10	.....	0.06	0	2	21	2	8	nw	U. S. Weather Bureau.
Meadow Brook Ranch	Hood River	850	1	66.2	.....	95	16†	44	2	43	0.08	.....	0.05	0	2	23	7	1	w.	John W. Palmer.
Medford	Jackson	1,425	2	69.7	.....	103	16	41	1†	47	0.20	.....	0.20	0	1	23	6	2	nw.	U. S. Weather Bureau.
Merrill	Klamath	4,070	7	62.6[a]	.....	94[a]	16	30[a]	1	46[a]	0.25	.....	0.25	0	1	25	4	2	.....	Mrs. Agness Ritchson.
Metolius	Crook	2,525	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Lottman.
Mikkalo	Gilliam	1,400	6	70.4	.....	103	16	41	4	44	0.10	.....	0.10	0	1	28	2	1	w.	Frank Little.
Miramonte Farm	Clackamas	195	24	65.6	+ 0.4	94	16	47	3†	39	0.93	+ 0.39	0.41	0	7	17	2	12	ne.	G. Muecke.
Monroe	Benton	350	15	64.4	− 0.9	94	15†	44	3	38	1.06	+ 0.74	0.72	0	4	20	4	7	nw.	L. A. Peek.
Mount Angel	Marion	485	26	66.2	.....	92	17	49	3	33	0.72	.....	0.27	0	5	16	2	13	s.	Dr. Urban Fischer.
Musick	Douglas	5,000	3	56.1	.....	87	16	34	1	30	1.10	.....	0.70	0	5	14	3	14	sw.	Alex. Lundberg.
Newport	Lincoln	69	25	56.0	− 1.7	79	15	45	10†	34	0.67	− 0.19	0.50	0	4	12	9	10	nw.	Wm. Mathews.
Odell	Hood River	1,000	1	67.5	.....	98	16	40	2	43	0.17	.....	0.10	0	2	19	5	7	.....	T. A. Decker.
Ortley	Wasco	1,600	1	65.0	.....	96	16	39	11	38	0.20	.....	0.10	0	2	19	6	6	w.	L. D. Firebaugh.
Paisley	Lake	4,500	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. C. Woodward.
Parkdale	Hood River	1,450	1	61.3	.....	93	16	36	2†	49	0.14	.....	0.14	0	1	14	16	1	w.	Isaac Beal.
Pendleton	Umatilla	1,070	23	69.0	− 2.4	100	16	45	4	48	0.39	− 0.03	0.25	0	3	16	9	6	w.	E. F. Overill.
Pilot Rock	....do	1,817	4	68.7	.....	101	17	44	1†	44	1.28	.....	0.70	0	5	24	2	5	nw.	John P. McManus.
Pompeii	Clackamas	3,879	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Coalman.
Portland	Multnomah	57	42	67.4	+ 1.1	96	17	53	3	33	0.48	− 0.06	0.23	0	5	15	4	12	nw.	U. S. Weather Bureau.
Port Orford	Curry	80	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. D. Loucks.
Prairie City	Grant	3,425	1	65.4	.....	102	16	40	4	54	0.35	.....	0.12	0	7	17	10	4	nw.	A. M. F. Kirchheimer.
Prineville	Crook	2,864	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Summers.
Prospect	Jackson	2,800	6	64.2	.....	99	16	30	1†	51	0.37	.....	0.19	0	4	12	17	2	w.	H. C. Stoddard.
Ramsey	Wasco	1,350	11	63.0	.....	92	19	38	2†	44	0.21	.....	0.10	0	3	19	6	5	w.	Mrs. Iva B. Collins.
Range	Grant	3,500	4	59.4	.....	92	16†	35	8	52	0.95	.....	0.30	0	4	16	12	3	.....	Mrs. Emma Arbuckle.
Redmond	Crook	.....	1	62.8	.....	97	16	38	3†	49	0.15	.....	0.12	0	2	18	12	1	w.	E. E. Foote.
Richland	Baker	2,350	11	67.0	.....	97	17†	41	2†	45	1.35	.....	0.95	0	3	19	6	6	sw.	L. G. Morgan.
Riverside	Malheur	3,000	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Leah Fairman.
Roseburg	Douglas	510	34	67.2	+ 1.1	100	16	47	1	43	0.20	− 0.14	0.16	0	2	13	15	3	n.	U. S. Weather Bureau.
Salem	Marion	120	22	66.5	+ 0.1	94	16	49	3	32	0.32	− 0.16	0.12	0	4	17	2	12	nw.	M. P. Baldwin.
Seneca	Grant	4,800	1	54.0	.....	87	16	29	23	49	0.79	.....	0.40	0	3	16	7	8	nw.	E. J. Southworth.
Silver Lake	Lake	4,700	15	61.6	− 3.0	95	16	31	1	54	0.76	+ 0.26	0.21	0	6	18	10	3	n.	G. W. Marvin.
Siskiyou	Jackson	4,115	4	61.1	.....	92	16	37	1	33	0.19	.....	0.12	0	2	3	22	6	ne.	U. S. Weather Bureau.
Sparta	Baker	4,150	21	62.1	.....	92	16	35	2	43	2.15	.....	0.95	0	9	15	8	8	w.	J. A. Wright.
Stafford	Clackamas	400	16	65.2	− 1.1	96	17	47	3†	36	0.94	+ 0.09	0.31	0	8	.....	.....	.....	ne.	John P. Gage.
The Dalles	Wasco	112	38	71.8	+ 0.5	100	16	47	2	40	0.02	− 0.14	0.01	0	2	22	3	6	w.	S. L. Brooks.
Toledo	Lincoln	75	22	57.4	− 3.7	92	15	40	1	15	0.40	− 0.16	0.30	0	2	24	6	1	.....	C. B. Crosno.
Umatilla	Umatilla	340	24	74.0	− 1.4	103	29	51	2	46	0.06	− 0.12	0.06	0	1	15	2	14	sw.	Mrs. Helen T. Duncan.
Union	Union	2,787	....	61.9	.....	90	16	38	1	44	1.50	.....	0.39	0	10	10	17	4	n.	Robt. Withycombe.
Vale	Malheur	2,242	20	69.6	− 0.8	101	17†	35	3	53	0.14	− 0.14	0.10	0	3	29	2	0	ne.	H. P. Osborne.
Van	Harney	3,506	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Howe.
Vida	Lane	980	1	64.1	.....	94	16	44	8	38	0.49	.....	0.16	0	5	15	6	10	w.	W. H. Pendell.
Waldo	Josephine	.....	1	66.2[b]	.....	101[b]	16	39[b]	1	44[b]	T.	.....	T.	0	0	20[b]	8[b]	1[b]	n.	M. M. Lewis.
Wallace Orchard	Polk	170	3	64.8	.....	95	17	44	3	40	0.37	.....	0.12	0	6	12	12	7	.....	Chas. A. Park.
Wallowa	Wallowa	2,935	9	61.6	.....	95	29	37	8†	49	1.30	.....	0.56	0	6	10	8	13	nw.	L. J. Coverstone.
Wamic	Wasco	1,500	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Swift.
Warmspring	Crook	1,500	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Claud C. Covey.
Wasco	Sherman	.....	....	69.0	.....	99	16	48	2	44	0.08	.....	0.08	0	1	21	5	5	w.	.....
Westfall	Malheur	3,000	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. M. Gilliam.
Weston	Umatilla	1,800	20	66.6	.....	95	16	43	7	44	0.04	.....	0.04	0	3	9	8	14	sw.	M. A. Baker.
Williams	Josephine	1,368	20	65.4[c]	− 0.9	99[b]	16	37[c]	1†	47[c]	0.01	− 0.17	0.01	0	1	19[c]	5[c]	4[c]	n.	Francis J. LeRoy.
Yonna	Klamath	4,146	5	59.5	.....	93	16	26	1	50	0.30	.....	0.27	0	2	2	25	4	w.	Jacob Rueck.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for July, 1912. District No. 12, Columbia Valley.*

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																																	
Anaconda	Missoula	.43	.24	.05	....	.07	.02	.10	....	T.	....	....	....	T.	....	....	....	....	.01	....	.32	.02	.11	....	.01	T.	....	....	....	T.	....	.40	1.78
Butte	....do	.30	.10	.39	....	.05	.10	.18	....	....	T.	T.	....	T.	....	T.	....	....	T.	....	.15	.05	.20	....	....	....	....	....	....	....	....	.20	1.63
Columbia Falls	Flathead	.42	.15	....	....	T.	.05	.30	.35	.32	.06	.20	....	.35	....	....	....	....	....	....	....	.11	.29	....	.07	....	....	....	....	....	....	....	2.67
Como	Bitter Root	.20	.05	....	....	.07	....	....	....	....	....	....	....	.07	....	....	....	....	....	....	....	.39	.02	....	....	....	....	....	....	....	....	.06	0.86
Dayton	Flathead	.30	.17	....	....	T.	....	....	.17	....	....	.14	....	....	T.	....	....	....	....	....	1.39	....	.50	.10	....	....	....	....	....	....	....	....	2.77
East Anaconda ‖	Missoula	*	.94	.28	....	.31	*	.18	....	.02	....	....	....	T.	T.	....	....	....	T.	T.	....	.45	....	.15	....	T.	T.	....	....	....	....	.18	2.51
Fortine	Kootenai	.70	.36	....	T.	.05	.02	.16	.24	.51	.08	.33	....	.05	.23	....	T.	....	....	....	T.	.23	.24	.04	T.	....	T.	....	....	....	T.	....	3.24
Hamilton	Bitter Root	.70	T.	.02	....	.03	....	T.	T.	....	....	....	....	.02	T.	....	....	....	....	....	.04	.40	.06	....	....	....	....	....	....	....	....	.01	1.28
Hat Creek	Missoula	.50	.15	.60	.05	.05	....	.06	.05	....	....	....	....	.15	.14	....	....	....	....	....	.17	....	.39	....	T.	T.	T.	....	....	....	....	.09	2.40
Haugan	....do	.32	....	.10	....	....	.02	.01	.01	....	....	.21	T.	.10	....	....	....	....	....	T.	.03	....	.03	.06	....	....	....	....	....	....	....	T.	0.89
Heron	Columbia	.47	....	....	....	.23	T.	.21	.18	....	....	.16	....	.26	.01	....	....	....	....	.21	....	.12	.15	.14	.02	....	....	....	....	....	....	....	2.16
Kalispell	Flathead	.23	.02	T.	....	.01	....	.22	.17	.03	....	.20	....	.22	....	....	....	....	....	.01	....	.17	.23	.05	....	T.	....	....	....	....	....	T.	1.56
Libby	Kootenai	.30	....	....	....	.18	.01	T.	.15	.01	....	.02	....	.03	.06	....	T.	....	....	T.	T.	T.	.24	....	.01	....	....	....	....	....	....	....	1.01
Lost Creek	Missoula	.24	.76	.40	....	....	.16	....	....	....	....	....	....	....	....	....	....	....	....	....	.12	....	.10	....	....	....	....	....	....	....	....	T.	1.78
Missoula	....do	.62	.10	.13	....	.10	....	.11	.02	....	....	.24	.04	....	....	....	....	....	....	....	.10	.14	.21	.08	....	....	....	....	....	....	....	.05	1.94
Ophir	....do	.85	.26	.83	....	.16	....	.02	.03	....	.13	....	....	.13	.16	....	....	T.	....	....	.33	.18	.15	....	....	....	....	....	....	....	....	....	3.23
Ovando	....do	.40	.16	T.	....	....	T.	....	....	....	....	.10	.07	.02	....	....	....	....	....	.12	....	.11	.13	T.	....	....	....	....	....	....	.04	1.15
Philipsburg	....do	.82	.21	.21	....	.14	T.	.07	....	....	....	....	....	....	....	....	....	....	....	....	.20	.17	.48	....	T.	....	....	....	....	....	....	T.	2.30
Plains	Columbia	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Pleasant Valley	Kootenai	.31	T.	T.	.15	.02	T.	.22	.29	.01	.02	....	.22	.26	T.	....	....	T.	T.	T.	.02	.17	.16	.04	....	T.	....	....	....	....	....	....	1.89
Polson	Flathead	....	.38	.06	....	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.18	.20	.37	....	....	....	....	....	....	....	....	....	1.29
Saint Ignatius	....do	.69	.05	.04	....	.14	T.	.11	.04	....	....	....	T.	....	....	....	....	....	....	....	....	.48	.77	.03	....	....	....	....	....	....	....	.40	2.75
Saltese	Missoula	.52	....	....	....	....	....	....	....	....	....	....	....	.40	....	....	....	....	....	....	....	....	.25	....	....	....	....	....	....	....	....	....	1.17
Stevensville ‖	Bitter Root	.71	.01	....	....	T.	....	.10	T.	....	....	.03	....	....	.05	....	....	....	....	....	.17	.12	.18	....	....	....	....	....	....	....	....	.03	1.40
Thompson Falls	Columbia	.47	....	.08	....	.05	....	.07	.04	....	....	....	T.	.02	....	....	....	....	....	....	.06	....	.08	.25	....	....	....	....	....	....	....	....	1.12
Willow Glen stock farm.	Missoula	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Wyoming.																																	
Afton	Snake	....	....	.28	.08	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.66	.04	.10	....	....	....	....	....	....	....	....	.10	.95	2.21
Alta	....do	.04	.01	.53	....	....	.02	.02	.03	....	....	....	....	.15	....	....	....	....	....	.80	....	....	....	....	....	....	....	....	....	.35	.15	.34	2.44
Bechler River	....do	....	.40	.02	1.20	....	0.38	....	....	....	....	....	....	0.20	....	....	....	....	.40	.30	.20	....	....	....	....	....	....	....	....	....	.40	.30	3.80
Bedford	....do	....	.08	.08	T.	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	.75	.16	....	....	....	....	....	....	....	....	....	.12	.78	1.97
Moran	....do	.18	.13	....	.05	....	....	....	.09	....	....	....	....	.25	.06	....	....	....	....	.51	.02	....	....	....	....	....	....	....	....	....	.24	.52	2.05
Snake River	....do	....	.40	.40	T.	T.	.06	T.	.14	....	....	....	....	.08	.73	....	....	....	....	1.23	....	.09	T.	....	....	....	....	....	....	....	.28	.64	4.05
Nevada.																																	
San Jacinto	Snake	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.02	....	....	....	....	....	....	....	....	....	....	.07	0.09
Utah.																																	
Standrod	Boxelder	....	....	.15	....	....	T.	....	....	....	....	.01	....	.03	....	....	....	....	.16	....	.09	.05	....	....	....	....	.07	....	....	T.	.95	.50	2.01
Idaho.																																	
Albion	Snake	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Almo	....do	....	....	....	....	....	T.	T.	....	....	....	....	....	....	....	....	....	.25	....	....	1.05	....	....	....	....	.20	....	....	1.42	.30	....	.40	3.62
American Falls	....do	....	.08	....	.43	....	.12	....	....	....	....	....	....	.18	....	....	....	....	....	....	.18	....	....	....	....	....	....	....	....	.06	.98	.73	2.76
Arrowrock	Boise	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.65	....	....	....	....	....	....	....	.10	.12	....	0.87
Blackfoot ‖	Blackfoot	....	T.	.02	....	....	.01	....	....	....	....	.08	....	T.	....	....	....	....	T.	.08	T.	....	....	....	....	....	....	....	....	.70	.87	.43	2.19
Blackfoot Dam	....do	....	....	.50	.05	....	....	....	....	....	....	....	....	.12	.05	....	....	....	.06	1.15	....	.10	....	....	....	....	....	....	....	....	.22	.20	2.45
Bogus Creek	Payette	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Boise	Boise	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	T.	T.	T.	....	....	....	....	....	....	T.	1.22	.05	1.27
Bonners Ferry	Kootenai	.38	....	....	T.	.14	....	.05	.05	....	....	.12	....	....	....	....	....	....	....	....	....	.57	.08	T.	.04	.40	....	....	....	....	....	....	1.83
Boulder Mine	Boise	....	.23	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	T.	....	....	....	....	....	....	24.	....	.60	1.07
Buhl	Snake	T.	.03	....	....	....	....	....	....	....	....	....	....	.01	....	....	....	....	T.	T.	.03	....	....	....	....	....	....	....	....	....	....	.10	.01	0.18
Caldwell	Boise	....	.02	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	.04	.03	T.	....	....	....	....	....	....	.01	....	1.12	1.22
Caldwell Experiment Station.	....do	....	.03	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.12	....	.06	....	....	....	....	....	....	....	....	.58	....	0.79
Camas	Lost River Region.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cambridge	Weiser	....	T.	.07	....	....	....	....	....	....	....	.04	....	....	....	....	....	....	T.	.27	....	....	....	....	....	....	....	....	....	....	....	.27	0.65
Cedar Creek Dam	Snake	T.	.01	....	....	....	....	....	....	....	....	T.	....	T.	....	....	....	....	T.	T.	.12	....	....	....	....	....	....	....	....	....	T.	T.	.01	0.14
Chesterfield	Port Neuf	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Clarks Fork	Pend Oreille	.50	....	....	....	.12	....	.37	.14	....	....	.09	....	.18	....	....	....	....	....	....	.01	....	T.	.13	.18	.08	....	....	....	....	....	....	1.80
Clyde	Lost River Region.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Council	Weiser	....	.36	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	.06	.02	....	....	....	....	....	....	....	....	....	.45	....	0.89
Culdesac	Clearwater	....	....	....	....	....	....	....	....	....	....	....	....	.10	....	....	....	....	....	....	....	.44	....	....	....	....	....	....	....	....	....	....	0.54
Deary	....do	.51	....	....	....	....	....	.11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0.62
Dent	....do	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Driggs	Snake	T.	T.	.45	....	T.	....	T.	....	....	....	....	....	.16	....	....	....	....	....	.68	....	....	....	....	....	....	....	....	....	.90	.13	.65	2.97
Emmett ‖	Payette	....	....	T.	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	T.	.05	T.	....	....	....	....	....	....	....	T.	.84	0.89
Forney	Salmon	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Garden Valley	Payette	....	....	.14	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	T.	T.	.25	....	....	....	....	....	....	....	....	....	.63	1.02
Garnet	Snake	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Glenns Ferry	....do	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	.55	0.55
Gooding	Wood-Malad	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.01	....	.02	....	....	....	....	....	....	....	....	T.	.10	.20	0.33
Grand Forks	St. Joe	.48	.16	.07	....	.05	.04	.20	.06	....	....	.01	....	....	....	....	....	....	....	*	*	*	*	.18	....	....	....	....	....	....	....	T.	1.25
Grandview	Snake	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.18	....	.01	....	....	....	....	....	....	....	.09	.03	.01	0.32
Grimes Pass ‖	Boise	....	.21	....	....	....	....	....	....	....	....	....	....	....	T.	....	....	....	T.	.01	....	T.	....	....	....	....	....	....	....	.01	.53	....	0.76
Guffey	Snake	....	.01	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.02	.23	....	....	....	....	....	....	....	....	....	....	.47	0.73
Hailey	Wood-Malad	.18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	....	.03	....	....	....	....	....	....	....	....	T.	1.22	1.43
Hollister	Snake	....	T.	....	....	....	....	....	....	....	....	....	....	.06	....	....	....	....	T.	T.	.03	....	....	....	....	....	....	....	....	T.	.34	.13	.10	0.66
Hotspring	Bruneau	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.63	....	....	....	....	....	....	....	....	....	T.	....	0.63
Idaho Falls	Snake	.01	....	.03	....	....	.06	....	....	....	....	....	....	....	....	....	....	....	T.	.10	....	....	....	....	....	....	....	....	....	....	1.07	.33	1.60
Indian Valley ‖	Weiser	....	T.	.06	....	.03	....	....	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.24	0.38
Irwin	Snake	T.	....	.20	T.	.12	.30	.38	....	....	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	.15	....	.16	.20	.07	.14	.29	2.01
Kellogg ‖	C'ur d'Alene	.38	.29	.13	.15	....	....	....	.15	....	....	....	....	....	.26	....	....	....	....	....	....	....	T.	.04	....	....	....	....	....	....	....	....	1.40
Kirkham	Payette	....	....	.15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	....	....	....	....	....	....	....	.30	....	....	0.45
Kooskia	Clearwater	.35	....	.20	....	....	....	.10	....	....	....	....	....	....	....	....	....	....	....	....	T.	.45	.10	....	....	....	....	....	....	....	....	....	1.20
Lakeview	Pend Oreille	.70	....	....	....	.05	....	.03	....	....	....	.23	....	.36	.15	....	....	....	....	.14	....	.40	....	....	....	....	....	....	....	....	....	....	2.06
Landore	Snake	....	.04	.37	....	....	....	.05	....	....	....	....	....	....	....	....	....	....	T.	....	T.	.18	.29	....	....	....	....	....	....	....	T.	T.	.40	1.33
Leadore	Salmon	.06	....	....	....	.02	.05	.08	....	....	....	....	....	....	....	....	....	....	.01	.02	.03	.18	.08	....	....	....	....	....	....	....	T.	....	.65	1.18
Lewiston	Clearwater	....	.12	.02	T.	....	....	....	....	....	....	....	....	T.	....	....	....	....	....	....	....	.07	.03	....	....	....	....	....	....	....	....	....	....	0.24
Little Camas	Boise	T.	.06	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	T.	.02	....	....	....	....	....	....	....	....	T.	....	T.	.88	0.96
Loon Creek	Salmon	.70	....	.08	....	.06	....	.06	....	....	....	....	....	T.	....	....	....	....	T.	.07	....	.25	.01	....	....	....	....	....	....	....	.07	.07	.....
Mackay	Lost River Region.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	T.	.10	....	....	....	....	....	....	....	....	....	....	....	.64	0.74

TABLE 2.—*Daily precipitation for July, 1912. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Idaho—Continued.																																	
Meridian	Boise		T.																	T.	.01	.01									.14	0.16
Mesa ‖	Weiser																					.02	.46									1.38
Middle Fork	Clearwater	.35	.05	.30				.04	.03			.09		.04					.06		.04									.04	.29	.06	0.49
Milner	Snake	T.	T.												.12									.18								0.44
Moscow	Palouse			.14																	.15											.52	0.67
Mountainhome	Snake																				T.										.26		0.26
Murtaugh ‖	do																																
New Meadows	Salmon																			.08	.35	.14	.10										1.09
Nezperce	Clearwater	.21	.10					.03						.08					.30		.20	*	*	.25						1.25	.67	.35	2.77
Oakley	Snake																						.17										0.85
O'Hara Bar	Clearwater							.60																									0.68
Orofino	do	.36	.01	.13		.01		T.											T.	T.	.07									T.	.05	.14	0.26
Payette	Payette		T.																*	*	1.44											.33	1.77
Pebble	Port Neuf				T.																T.										.18		0.89
Pierson	Salmon	.49																			.06									T.	T.	.87	0.93
Pleasant Valley	Boise												T.	.09					T.	.02	T.	.01					T.		.28	.44	.77	1.63
Pocatello	Port Neuf		T.		.02		T.							.19						.20	.23	.14					.46		T.	.62	.63	2.50
Pocatello Nursery	do		.02		.01		T.													.12										.65	.14	1.01
Poplar	Snake			.05			.05															.07	.13		.22	.10						2.44
Porthill	Kootenai	.40				.40	.04	.09		.33	.06			.60																		
Priest River Experiment Station:																																	
No. 1	Pend Oreille	.72	.04		.01	.25	T.	.10	.06			.38	T.	.30	.02					T.	.04	T.	.17	.12	.03	.34	T.						2.58
No. 2	do	.64	.03		.01	.25	T.	.06	.06			.38	T.	.29	.02					.03		T.	.21	.13	.03	.29	T.						2.43
No. 3	do	.69	.04		.01	.25		.08	.06			.46	T.	.29	.02					.04		.01	.18	.13	.03	.28	.01					.62	2.58
Pyle Creek	Payette		.19				.01														.06	.04										0.92
Richfield	Wood-Malad													T.					T.			T.								.06	.04	.44	0.54
Roseberry	Payette	.20	.21	T.		.02	T.					.03										.03									.03	.43	0.95
Roseworth	Snake																		T.	.01	.38								T.				0.39
Rupert	do			.03										.10					.17											.85	.40	1.55
St. Anthony ‖	do																						.13		.01						T.	1.08
St. Maries	St. Joe	.50					.04	.06	T.					.34																	.85	0.89
Salmon	Salmon							.04											.03			.12	.15			.36							1.97
Sandpoint	Pend Oreille	.56					.20	.04	.11			.40							T.	T.	.01	T.								.15	.05	1.03	1.24
Sheep Hill	Boise																		T.		T.										T.	.01	0.01
Shoshone	Wood-Malad	T.	T.											T.							.36										.38	.12	1.04
Silver City	Owyhee		.18																														
Smith Prairie	Boise																														.03	2.79	3.07
Soldier Creek	Wood-Malad	.18	.07																	.03						.33							2.15
Spirit Lake	Pend Oreille	1.08			T.	.05	.17	.03	.20					.26																T.	1.08	.34	1.53
Springfield	Snake		T.				.11							T.																	.48	1.30	2.02
Sugar ‖	do	.10		T.												14															.38	.10	1.10	1.58
Sunnyside	do																														.20	.91	1.21
Tripod Mountain	Payette			.10										T.					T.		.12	.01								.35			0.48
Twin Falls	Snake															T.					.40	T.	T.								.56	.57	1.83
Vernon	do		T.				.15	.15												.03			T.	.06									1.21
Wallace	Couer d'Alne	.47	T.	.05			.10	.18	.08					.22	.02				T.		T.											.04	0.09
Weiser	Weiser		.05																												T.		0.04
Wendell	Wood-Malad	T.	T.																		T.	.04											
Washington.																							*	*	*	*	*	*	*	.62			1.34
Aberdeen	Coast	.17	.07	.05	.09	.11	.07	.16																									
Anacortes	Puget Sound																						.21	.37	.28	.09							1.36
Baker	do				T.		.28							.15									.03	.04	.25								1.33
Bellingham	do	.58			.08			.25						.10									.01	.10	.11								
Bellingham (near)	do																																
Beverly	Columbia																							.50	.08	.02	.02						1.50
Blaine	Puget Sound	.04	.50		.04	.08		.18						.04																			
Blewett	Wenatchee								.03														.25		.08	.03							1.20
Bremerton	Puget Sound	.41	.40																				.15	.03	.20	T.						.01	0.70
Brewster	Columbia	.13			.01	.01		.16															.01									.02	0.05
Bumping Lake	Yakima	.02	T.		T.																		.12	.08	.09	.38							1.16
Cedar River	Puget Sound	.09			.07			.20						.13									T.	.03	T.	.05	.02					T.	0.58
Centralia	Coast	.14	.15		T.	T.		.19																									
Cheney	Spokane																																0.42
Cle Elum	Yakima	.38	.04																					.62	.68	.01	.09						3.05
Clearbrook	Puget Sound	.09	.76		.07	.35		.20	.18															.03		.05							0.34
Colfax	Palouse		.06	.05										.15									.12	.42	.29	.08							2.93
Colville	Columbia	.63				.38	.18		.05					.78									.01	.25	.14	.10	.41					.14	1.97
Conconully	Okanogan	.24	.29		.03	.10	.02	.23	.01																								
Cowiche	Yakima																																
Crescent	Spokane																																
Darrington	Puget Sound																																0.49
Davenport	Columbia							.12						.21											.16								0.68
Dayton	do		.38	.04				T.	T.					T.							T.	.11	.15	T.							T.		1.13
Deer Park	Spokane	.25			T.			.30	.02			.01		.44						.06					.05								1.36
Detroit	Puget Sound	.45	.44		T.																			T.	.41	.06							1.62
Dixie	Columbia	.20	.46											.01									.93	.02								T.	
Douglas Lake	Puget Sound																																
Dryden	Wenatchee	.52	.02																		.07	T.			.11							.02	0.74
Duckabush	Puget Sound																																
East Sound	do																																
Ellensburg	Yakima	.23	.15																												T.	T.	0.38
Ephrata	Columbia																																
Forks	Coast																																
Fort Simcoe	Yakima																																
Gerome	Columbia	.07				.06							.35										T.	.23	.11	.03						T.	0.85
Goat Lake	Puget Sound	.92	.70			.53		.32	.03					.30	.01									.05	.23	.54	.26							3.89
Gold Basin	do						.36	.42						.20									T.	.10	T.	.30							1.38
Gold Creek	Yakima																																
Goldendale	Columbia	.06	.08																	T.	T.				T.						T.		0.14
Granite Falls	Puget Sound	.30				.56		.28						.12										.39	.19	.21	.03						2.08
Grays River	Coast																																
Hanford	Columbia	.09																						T.									0.09
Hatton	do	.10	.05											.13											.02								0.30
Huntsville	do																																
Irene Mountain	do	.55	.13			.40	.10	.06				.01	.33										T.	.40	.66	.01	.02						2.67
Kennewick	do	T.	.07																	T.	.02				T.	.01							0.10
Kent	Puget Sound	.49	.11		.01									T.										T.	.09	.26	.03						0.99
Kettle Falls	Columbia	.42				.18		.07						.46									.16	.27	.38	.02							1.96
Kiona	Yakima																																

TABLE 2.—*Daily precipitation for July, 1912. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Washington—Con.																																	
Kosmos	Columbia	1.01	.06	T.	T.	.05	T.	.16														.06	.01		.14	T.					.03		1.52
La Center	do	.39			.11	T.	.15	T.													.10	.07		.03	T.						T.	0.85
La Crosse	Palouse	T.	T.	T.				T.	T.					.12						T.			.41	T.	.02						T.	0.55
Lake Clealum	Yakima	.02	.04	.02	T.	T.								T.										.04	.02							0.14
Lake Kachess	do	.14	.04			.05																		.04	.05							0.32
Lake Keechelus	do	.17																						.08	.16							0.41
Lakeside	Columbia	T.						.02	T.															T.	.13						T.	0.15
Laurel	do	.18	.05																					.01	.05							0.29
Laurier	Kettle	.51	.19		.01	.24	.01	.09	.06	.09	.04			.59	T.						.01	T.	.06	.19	T.	.05						2.14
Lester	Puget Sound																															
Lone Tree	Coast	.02	.23		.02	T.	.01	.32				T.	T.	T.							T.			T.	.74	.08		T.			.08	1.50
Longmires Springs	Puget Sound	.30																				.20										0.50
Lost Creek	Columbia	.05	.01			.01		.04	.01	.03				T.									1.06	.03							T.	1.24
McConihe	do	.12	T.																			T.								T.		0.12
McCumbers Ranch	do		.30																													0.30
Moses Lake	do	.04																					T.		T.					T.		0.04
Mottinger	do							T.																	.05						.02	0.07
Mount Pleasant	Coast	.21	.65		.15		.11							.05									T.	.04	.08							1.29
Moxee	Yakima	.16	.09																		T.	T.	T.	T.	T.						T.	.04	0.29
Newport	P'nd Oreille	1.14			T.	.09	.03	.05	.05			T.		.59	.03					T.		.11	.04	.11	.04	.21							2.49
North Head	Coast	.06	.08		.02		.01	.19														.22	.06	.08	.21	.01							0.94
Northport	Columbia	.49			.03		.04	.04	T.				.54	.17								.04	.07	.02	.04						T.		1.48
North Yakima	Yakima	.15	.07																		T.	T.	T.	T.	T.						T.		0.22
Nutland	Columbia	.06	.18																			.12											0.39
Odessa	do	.02	.03						T.					.07							T.		T.	T.	.02						.05	0.19
Olga	Puget Sound	.14	.64		T.			.10						.06									.05		.29							1.28
Olympia	do	.70	.31		.01			T.																T.	.44	.17						1.63
Omak	Okanogan	.27				T.		.16															.38	.28	.68						.13	1.90
Oroville	do	.75																				.13	.03	.20	.15						.11	1.37
Parker	Yakima																															
Peola	Snake	.72	.23	.15			.20							T.						T.	T.	.61	.05	.01								1.97
Pomeroy	do																															
Port Crescent	Coast	.02	.47		.01																		.01	.41	.38	.02					.03	1.35
Port Townsend	Puget Sound	.11	.55		T.		T.	.15															.01	.05	.06							0.93
Pullman	Palouse	.05	.07					.03						.10									.03									0.28
Prosser	Yakima																															
Queets River	Coast	.17	.14	T.	.09	.08	T.	.05			T.	T.		.04							.03	.04	.39	.36	.91	.37	T.	T.	T.	T.	T.	.10	2.77
Quinault	do	.10	.40		.05			.20	T.														.50	.68	.20	.65					.03	2.81
Republic	Kettle	.26	.20			.28	.03	.13	.09	.07				.22								.02	.58	.33	.03	.05							2.29
Rex Creek	Columbia	.12	.14																					T.	.40						.06	0.72
Ritzville	do	.09																														0.09
Robertsville	do	.05	.25																	T.		T.		T.	T.						T.	0.30
Rock Lake	Palouse							T.						.16								.08		.13		.10						0.47
Rosalia	do	.06						.09						.65								.05	.12		.03							1.00
Russells Ranch	Yakima	.02	.02																		.32	.09										0.45
Seattle	Puget Sound	.27	.25		.03		.01	.03			T.			.05						T.		.04	.06	.06	.28						.07	1.15
Sedro Woolley	do	.22			.02	.11		.17																	.37	.25	.04						1.18
Sixprong	Columbia	.05	.03																													.16	0.24
Skagit Power Dam	Puget Sound	.30	.64			.03		.13						.24									.07	.14	.35	.26							2.16
Snohomish	do	.60				.80		.30															.25	.10	.10								2.15
Snoqualmie Falls	do	.30	.12	T.	.05	.01	T.	.04						.22									T.	.12	.10	.03							0.99
Snoqualmie Pass	do																															
Snyders Ranch	Columbia		.33					.04																.08								0.45
South Bend	Coast	.16	.31		.06	.02	.03	.06															.07	.19	.11							1.01
Spokane	Spokane	.09				.01	.06	.15						.45						T.	.13	.04	.19	T.	.02	.16							1.30
State University	Puget Sound																															
Stokes Ranch	Columbia	.15	.40		.04																	T.	T.	.19	.24							1.02
Sumner	Puget Sound	.56	.04		.12			.02														T.	.01	.16	.53	.06						1.50
Sunnyside	Yakima	.04	.07																			.27	.07	T.								0.45
Tacoma	Puget Sound	.33	.27		T.	T.		T.						T.							T.	T.	.03	.06	.49	T.					.03	1.21
Tatoosh Island	Coast	.04	T.		.05		.03	.02					.01	.01								.03	.08	.13	.82	.22						.04	1.48
Tieton	Yakima	.32	.09	T.				T.													T.	.12										0.53
Touchet	Columbia		.02					T.												T.	.03	T.	T.	T.	T.					T.	T.	0.05
Touchet Ridge	do	.25	.65	.80										.20								1.20										3.10
Trinidad	do	.31																													.31	0.62
Vancouver	do	.12	.02																			.48	.14		.09						.03	0.88
Vashon Island	Puget Sound	.16	.22	T.	T.			.01	T.					.02									.03	.05	.47	.02	T.					0.98
Wahluke	Columbia	T.																			T.	T.	.12	T.	T.						T.	0.12
Wallace	Okanogan	.49	.14		.04	T.		T.	.25	.36													.36	.98	.72						.25	3.59
Walla Walla	Columbia	T.	.28	T.				T.						T.						.05	.25	.01		T.						T.		0.59
Washougal	do	.35						.04																.04	.06							0.49
Waterville	do	.42	T.																				T.	T.	.20						.05	0.67
Wenatchee	do	.35	.15																		.02	T.	T.		.01							0.53
Wenatchee (near)	do	.31	.03																		.19	T.	T.	T.	.06						T.	.11	0.70
White Salmon	do	.03	.03																	T.		T.		T.	.03						T.		0.09
Wilbur	do												.05	.22							.08	.55	.09	T.							.04	1.03
Wind River	do	.29	.14			.02																									.11	0.56
Winthrop	do	.22	.40		T.			.12													.06		.03	.10	.27							1.20
Yacolt	do	.35	.04					.08																	.01							0.48
Yale	do	.36	.01					.03														.02	T.		.15						T.		0.57
Zillah	Yakima																															
Oregon.																																
Albany	Willamette	.03	.24	.08					.01													.02			.04	.13						.03	0.58
Allingham	Deschutes	T.	.17																		.09											0.26
Ana River	SE. drainage																		.07	.09			.04							T.	T.	0.20
Ashland	Rogue																			.25	.50										.11	0.86
Astoria	Columbia	.39	.20		.01			.22														.25	T.	.08	.06						.02	1.23
Austin	John Day	.02	.26	.11															T.	T.	T.	.15	.19									0.73
Avalon Orchard	Columbia						10													.02		.03		.02	.09							0.26
Baker	Snake	.04	.02		T.			T.	T.										.05	.07	.21	T.	.46								.80	T.	1.65
Bay City	Coast	.06	.08			.04		.10														.02		.03	.40	T.						.08	0.81
Bear Creek	Deschutes	T.	.03																		.30											.09	0.42
Bear Valley	SE. drainage		.14	.18																		T.											0.32
Beech Creek	John Day	.16	.11	.20																T.											.18	0.65
Bellfountain	Willamette	.02	.85																			T.			.10						.05	1.02
Bend	Deschutes	.04																	.07	.30	.40	.26								.04		1.11
Big Basin	John Day	.03	.02						T.	T.																					.07	0.12
Black Butte	Willamette		.15																						.15						.10	0.40
Blalock	Columbia	T.	T.																		T.										T.	T.

TABLE 2.—*Daily precipitation for July, 1912. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Continued.																															
Blue Mountain Sawmill.	Umatilla		.21	.20			.10														.14	.08						.03			.54	0.76
Brogan	Malheur																			1.05			.04							.03		0.54
Buena Vista	Snake	.05	.03			T.																						.20		.50		1.20
Burns	SE. drainage										.11											.10										0.91
Burns Mill	do													.27							T.										0.27
Butte Falls	Rogue																			.90	.02										0.92
California Gulch	Umatilla	.25	.09	.23																	.17		.09								0.83
Canyon City	John Day	.04	.07	.18																					.02	.02				.04		0.37
Cascade Locks	Columbia	.18	.07																			.06		T.						.16		0.47
Cascadia	Willamette	.06	.07	.02		.05		T.														.25			.12					.52		1.09
Cazadero	do		.04			.23		.07	.07													.18			.04	.01						0.64
Christmas Lake	SE. drainage		.21																.88	.06	.04								T.	T.	.03	1.22
Cliff	do	.08																		33										.05	.13	0.59
Columbia Mine	Snake	.02	.16	.01				.04	.04											T.	T.	.19	.70							T.	.12	1.28
Condon	John Day	.10	.12	.12																	.43	.07		T.	.01					.04	.01	0.90
Coquille River Lighthouse.	Coast					.07														.04											.06	0.17
Cornucopia	Snake		.28	.21			T.												.05	.60		.23	.11						T.		.73	2.21
Corvallis	Willamette	.02						T.														T.			.15						T.	0.17
Cracker Creek	Snake	.02	.01	T.				T.	T.												.04	T.	.05								.02	0.14
Crescent	Deschutes		.07	.02														T.	.06	.05	.03	.03							T.			0.26
Dayville	John Day	.13	T.	.12				T.	.12											.03	.06		T.							.02	.04	0.52
Deadwood	Coast		.19																						.15					T.		0.34
Diamond	SE. drainage		.06																	.07	T.	.06								.08	T.	0.27
Doraville	Columbia	.20	.15		.06	.04	T.	.25	.03				.01	.01							T.	.37	.02	.32	.27	.02					T.	T.	1.75
Drain	Umpqua	.12																							.02						.06	0.20
Dufur	Columbia	.26	.02					.03												.02	T.			T.	.03					T.	T.	0.36
Duncan	Umatilla	.30		.60		.01	.01											.01		.01			01						.01			0.96
Echo	do							.04												.28			T.		.03							0.35
Ella	Columbia																															
Embody	SE. drainage		.35																.07	.20	.50		.09		.06					.30		1.42
Eugene	Willamette	.36			.06																									T.	T.	0.57
Fairview	Coast																															
Falls City	Willamette																															
Fir Glen	Coast		.01																T.	.06											.09	0.16
Florence	do		.07																						.77						.05	0.89
Forest Grove	Willamette																															
Fort Rock	SE. drainage	.30																T.	T.	.12	T.	.18								T.	.03	T.	0.63
Galice	Rogue																		.29													0.29
Gardiner	Umpqua																															
Gibbon	Umatilla																															
Glencoe	Columbia	.04						.07																.10								0.21
Glendale	Umpqua																	.12		T.											.04	0.16
Glenora	Coast	.30	.08			.04		.07														T.			.12	.24					.64	1.49
Gold Beach	Rogue																									.20						0.20
Golden Falls	Coast		.12															.17	T.						.10					T.	.05	0.44
Granderonde	do																				T.	T.								T.	.90	0.90
Grants Pass	Rogue																		T.													T.
Grass Valley	John Day	.12																													.02	0.14
Greenhorn	Snake	.04	.07	.20				.01	.03	.01									.02	.02	T.	.13	.18			.02				T.	T.	T.	0.73
Gumboot	do		.27	.37	T.		T.	.03											.03	.30	T.		.18									.55	1.73
Gurdane	Columbia			.07				T.												T.	.16	.06										0.29
Hampton	Deschutes	.05	.06	T.																.05										T.	.13	0.29
Happy Home	Umpqua																											T.	T.		T.	.13	0.13
Harbor	Columbia											T.			T.																	0.38
Hay Creek	Deschutes		.10																	.19	.06	.03										0.54
Hazeldell	Willamette		.33	.14																	.07											0.92
Headworks	do	.30				.28								.14								14	.02		.04							0.72
Heppner	Columbia	.35	.03	.03				.07												T.	.08	.11			.05					T.		0.03
Hermiston	Umatilla																								.03							0.11
Hermoso Rio	Deschutes	.02	.05																			.04									.05	1.40
Hilgard	Grnd Ronde		.10	.40				.10												T.	.20	.50	.05		T.							T.
Hood River	Columbia	T.																												T.		0.02
Hood River No. 2	do	T.	.02																	T.		T.		T.	.10					T.		0.19
Hood River No. 3	do	.09	T.																	.01		T.		T.	.19							0.24
Hood River No. 4	do	.04	T.																		.17				.02					.04		0.65
Hoover	Willamette	.06	.25			.07			.04													.16	.06								.07	0.71
Howardville	Grnd Ronde		.20	.18		.03		.01																							.25	0.25
Huntington	Snake																			.02			.32							.04		0.53
Ibex Mine	John Day	.01	.08	.02	T.				.04	T.										.35		.22									.45	1.46
Ironside	Snake	.04	.40																T.	T.											.03	0.03
Jacksonville	Rogue																		.06	.04		.06	.54	.32							.14	2.36
Joseph	Grnd Ronde	.15	.72	.28				.05													.80											0.80
Klamath Agency	Klamath																		.03	.05		.07	.03									0.18
Klamath Falls	do																				.20	.27	.27	T.							.10	1.36
La Grande	Grnd. Ronde	.08	.07	.28				.07	.02																							
Lakeview	Pitt																														.02	0.63
Lilyglen	Rogue																	T.	T.	.61	T.	T.									.03	0.95
Long Creek	John Day	.29	.18	.09				.31												.02	.01	.01	.01									0.19
Long Valley	Pitt		.04															T.	.01	T.			.14									0.92
McKenzie Bridge	Willamette	.04	.10	.03																	.03	.40			.05						.27	0.92
McMinnville	do	.09	.02					T.														.10			.10						.03	0.34
Marshfield	Coast						.04													T.					T.			T.			.06	0.10
Maury	Deschutes	.11	.16																		.20		T.						T.	.26	.08	0.81
Meacham	Umatilla																															
Meadow Brook Rch.	Columbia	.05																							.03							0.08
Medford	Rogue		T.															T.	T.	T.	T.	.20	T.								T.	0.20
Merrill	Int. drainage																							.25								0.25
Metolius	Deschutes																															
Mikkalo	John Day	.10																				.33			.10							0.10
Miller Prairie	do																					.21			.14						.03	0.43
Miramonte Farm	Willamette	.09	.41					.05																	.14					T.	.10	0.93
Monroe	do	.10	.72					T.																	.14					.10	T.	1.06
Mountain Home	Columbia	.21	.24		.06	.12	.01	.22	T.		T.			T.							.05	.36	.01	.12	.81	.02						2.33
Mount Angel	Willamette	.10	.27																			.14			.17						.04	0.72
Mountain Ranch	Rogue																															0.00
Musick	Umpqua	.10	.70	.10																		.15	.05									1.10
Newport	Coast		.09			.02																		.06	.50							0.67

TABLE 2.—*Daily precipitation for July, 1912. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Continued.																																	
Oochco	Deschutes	.09	.07																T.	.18					.11						.05	.55	1.05
Ochoco Creek	do	.05	.30																	.09				.03							T.	.35	0.82
Odel	Columbia		.07																						.10								0.17
Ortley	do	.10																				.10									T.		0.20
Owyhee	Owyhee						T.													.20	.03											T.	0.23
Paisley	SE. drainage																																
Parkdale	Columbia																								.14								0.14
Pendleton	Umatilla	.11		.03																		.25											0.39
Persist	Rogue	T.															T.		.20	.12	.10												0.42
Pilot Rock	Umatilla	.20	.03	.11	T.																	.70	.24										1.28
Pompeii	Columbia																																
Portland	Willamette	.18	T.		.01			.01														.23		T.	.05						T.	T.	0.48
Port Orford	Coast																																
Post	Deschutes	.03	.29																	.03											.20	.08	0.63
Prairie City	John Day	.06	.05	.03															.03	.02		.04	.12	T.								T.	0.35
Prineville	Deschutes																																
Prospect	Rogue		.03																	.12	.19	.03											0.37
Rager Creek	Deschutes	.23	.24																	.16											.09	T.	0.72
Ramsey	Columbia	.10						.05											T.		T.				.06								0.21
Range	John Day	.25	.30	.30				.10														T.	T.										0.95
Ray Creek	Columbia	.27	.80																	T.	T.	.08			T.								1.15
Redmond	Deschutes																			.12		.03											0.15
Reston	Umpqua		T.																													.02	0.02
Richland	Snake			.20															T.	T.			.20										.95	1.35
Riverdale	Deschutes	.03	.04															.10	.03											T.	.17	.22	0.59
Riverside	Malheur																																
Rock Creek	Willamette		.81					.01														.10									T.	.02	0.94
Roseburg	Umpqua		.16			T.												T.				.04			T.						T.		0.20
Rosland	Deschutes		.10															T.	.04	.11											.45		0.70
Salem	Willamette	T.	.12					.08														T.		T.	.10							.02	0.32
Seneca	SE. drainage	T.																			.30		.40									.09	0.79
Silver Lake	do		.21																.21	.08		.11	.05									.10	0.76
Siskiyou	Rogue																				.07	.12											0.19
Sisters	Deschutes	.01	.25																	.24	.06	.18									.05	.23	1.02
Sparta	Snake	.15	.30		.05			T.											.10	.05	.25			.15							.95	.15	2.15
Stafford	Willamette	.05	.20	T.		.02		.04	.01													.27			.31						T.	.04	0.94
Starkey	Gnd. Ronde			.55			.15														.50	.59		T.									1.79
Summit	Willamette	.02	.37					.08																.03	.12							.07	0.69
Summit Prairie	Deschutes																																
Susanville	John Day	.01	.10					.05	.01											.37	.10		.35								T.		0.99
Tamarack	do	.90	T.																				.10	.12	.32							.50	1.94
Telocaset	Snake		.32				.01														.35		.15		.01						.28		1.12
The Dalles	Columbia	.01	.01																						T.								0.02
Tin Roof	Umatilla	.29	.21	.25				.08												T.	.46	.06		T.									1.35
Toledo	Coast							.10																	.30								0.40
Trail	Rogue																		T.	.03	.10											T.	0.13
Trask	Coast																																
Umatilla	Columbia																			T.	.06	T.		T.							T.		0.06
Union	Gnd. Ronde	.04	.12	.21				.01												.05	.20	.39	.20	.01								.27	1.50
Vale	Malheur		.01																	.10	T.											.03	0.14
Valley Falls	SE. drainage	.15																T.	.10	.28			.29								.01	.09	0.92
Van	Malheur																																
Vida	Willamette	.10	.15																			.16			.07							.01	0.49
Waldo	do																	T.	T.													T.	T.
Wallace Orchard	do	.02	.12					.04														.04			.12							.03	0.37
Walloupa	Gnd. Ronde	T.	.61	.18				T.	T.													.03	.35										1.17
Wallowa	do	.14		.56				.02													.11	.32	.15										1.30
Wamic	Deschutes																																
Warmspring	do																																
Wasco	Columbia																				.08			T.							T.		0.08
Welches	do																																
Westfall	Malheur																																
Weston	Walla Walla	.01	.02																		.01	T.	T.	T.						T.	T.	T.	0.04
Williams	Rogue																		.01														0.01
Yonna	Int. drainage		.03																	.27													0.30

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 12.*

Date.	Montana.				Afton, Wyo.		Idaho.																			
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hot Spring.		Lewiston.		Mackay.		New Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	66	51	60	49	73	.....	66	45	58	45	72	52	65	50	64	45	.....	.....	65	48	74	45	63	48	66	42	48	45
2....	63	48	71	43	71	.....	59	43	65	40	69	42	71	48	65	35	.....	.....	73	42	73	44	66	39	70	36	68	38
3....	62	47	69	50	69	.....	72	40	75	38	75	42	76	55	72	35	.....	.....	68	49	72	42	67	36	70	45	64	46
4....	67	44	74	42	64	.....	77	46	76	47	80	47	84	51	74	46	.....	.....	73	53	76	44	73	46	72	44	72	42
5....	69	49	70	45	74	.....	76	55	67	47	82	50	83	59	69	45	.....	.....	78	52	70	41	73	43	72	42	68	51
6....	66	44	67	40	83	.....	73	51	67	38	81	50	76	54	76	43	.....	.....	78	49	71	43	76	45	72	44	65	38
7....	59	48	61	45	78	.....	72	49	64	47	82	50	69	53	79	43	.....	.....	77	50	67	40	74	50	68	41	54	44
8....	58	46	62	44	71	.....	71	44	65	46	77	47	74	53	65	35	.....	.....	71	49	66	41	70	45	68	35	60	47
9....	67	49	75	46	79	.....	80	47	76	45	82	46	83	48	73	37	.....	.....	78	42	75	39	75	39	70	34	75	40
10....	74	45	82	42	83	.....	90	54	65	45	95	50	92	53	83	41	.....	.....	87	48	82	43	84	47	78	36	81	44
11....	67	50	78	51	73	.....	84	57	65	50	90	57	84	60	83	51	.....	.....	81	63	84	50	79	56	78	47	73	50
12....	74	47	81	43	78	.....	83	52	74	40	88	52	90	55	80	47	.....	.....	83	59	83	45	81	52	78	42	79	43
13....	65	46	80	45	79	.....	90	58	74	37	96	53	78	57	-----	-----	.....	.....	83	54	85	43	85	49	74	40	67	46
14....	66	40	78	49	77	.....	80	49	84	50	84	50	87	54	-----	-----	.....	.....	78	54	86	45	78	51	72	42	76	47
15....	82	48	86	45	79	.....	87	54	78	48	90	52	92	56	83	43	.....	.....	84	47	87	46	81	45	64	58	83	46
16....	65	54	86	48	83	.....	94	60	78	42	96	55	98	60	84	44	.....	.....	89	51	89	45	86	49	79	42	88	50
17....	68	53	73	55	86	.....	97	64	82	42	100	56	97	62	90	54	.....	.....	91	54	88	45	90	53	82	46	80	54
18....	74	45	78	54	82	.....	81	66	88	48	88	72	92	64	89	57	.....	.....	82	63	76	50	87	66	86	47	83	52
19....	78	48	86	47	67	.....	86	60	82	49	90	64	89	63	77	47	.....	.....	81	62	80	56	82	60	79	54	86	49
20....	74	55	76	57	76	.....	86	56	86	50	86	55	89	68	-----	-----	.....	.....	85	55	85	54	81	51	67	57	89	57
21....	77	55	82	59	92	.....	86	59	85	48	90	61	89	66	.....	.....	.....	.....	89	59	84	52	83	60	78	49	84	56
22....	74	50	82	48	83	.....	76	58	71	47	84	55	73	56	82	50	.....	.....	82	55	86	50	80	52	82	51	67	51
23....	69	51	76	47	80	.....	86	51	75	43	87	50	77	52	80	45	.....	.....	83	50	87	48	79	46	77	54	74	48
24....	80	49	92	48	84	.....	91	58	74	47	92	52	87	59	85	46	.....	.....	88	58	86	47	85	53	82	50	80	48
25....	76	54	88	50	85	.....	87	55	75	42	91	58	86	63	86	49	.....	.....	90	59	90	46	85	52	83	42	76	49
26....	78	50	92	49	85	.....	88	58	75	44	92	56	86	57	89	50	.....	.....	87	59	93	52	86	50	84	46	76	48
27....	75	47	86	47	86	.....	91	56	78	41	94	56	93	53	.....	.....	.....	.....	90	53	93	55	86	51	84	44	82	42
28....	81	46	91	45	83	.....	94	63	86	42	95	58	97	57	.....	.....	.....	.....	93	55	97	54	89	56	89	47	87	44
29....	86	46	94	48	79	.....	91	62	91	44	96	67	101	52	-----	-----	.....	.....	83	60	92	56	81	62	81	48	92	46
30....	90	52	96	50	80	.....	89	64	93	47	90	63	100	61	90	50	.....	.....	67	60	93	55	77	63	68	56	96	48
31....	89	57	76	57	80	.....	83	64	82	56	85	65	92	71	92	48	.....	.....	70	61	81	60	73	63	72	56	75	56
Mns..	72.2	48.8	79.0	47.8	78.5	.....	82.8	54.8	75.9	44.8	87.1	54.3	85.5	57.3	79.6a	45.2a	.....	.....	80.9	54.0	82.3	47.6	79.2	50.9	75.6	45.7	75.7	47.3

Date.	Washington.																									
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	62	50	65	51	68	50	56	48	69	51	56	53	66	50	60	46	59	49	60	50	60	46	54	47	60	50	59	50
2....	67	48	66	53	72	43	69	50	74	49	60	53	69	52	69	41	59	47	67	52	65	46	67	43	68	51	59	50
3....	61	49	72	45	72	40	70	46	87	50	60	54	80	48	79	39	60	43	74	52	80	50	74	47	74	50	59	51
4....	63	48	67	52	84	46	71	46	82	55	58	53	82	54	79	50	63	49	63	53	82	54	77	51	68	53	55	50
5....	60	47	64	52	80	50	63	50	78	50	56	52	76	48	76	50	58	48	61	51	80	51	72	54	64	52	55	50
6....	62	45	64	45	75	43	64	49	81	53	56	52	78	49	76	43	58	44	62	50	78	49	70	48	63	49	55	49
7....	67	48	62	49	68	51	67	49	75	52	59	52	76	53	71	52	59	42	64	50	84	60	60	49	64	51	59	49
8....	62	45	70	43	71	52	74	48	83	53	56	53	82	48	76	43	58	40	67	50	79	57	69	52	69	47	56	49
9....	67	48	69	43	82	53	83	44	88	56	55	52	87	55	85	52	58	49	73	52	85	49	80	50	76	51	55	51
10....	62	47	72	44	85	49	80	45	86	56	60	53	89	58	88	52	62	50	73	55	90	58	84	55	75	52	57	51
11....	65	50	71	46	82	49	78	52	86	61	58	52	87	58	83	56	59	49	70	55	85	63	79	57	73	53	54	50
12....	68	46	72	46	85	43	86	46	89	58	54	51	91	58	88	46	61	48	78	54	90	65	84	52	80	53	53	50
13....	70	49	71	57	85	54	74	54	84	58	61	52	90	62	86	55	62	48	69	54	85	62	68	53	70	54	56	49
14....	81	56	72	46	86	43	89	42	91	54	63	53	90	54	87	44	68	43	80	55	96	65	80	52	78	53	62	50
15....	86	54	79	49	90	52	91	47	96	62	74	55	95	54	94	50	78	49	81	61	98	68	90	54	81	56	65	52
16....	92	50	84	49	88	46	95	49	88	64	70	54	98	62	96	58	83	50	79	62	101	68	89	60	77	59	68	52
17....	96	54	90	52	86	48	98	52	89	60	75	55	96	67	87	64	84	58	85	67	92	64	81	61	83	58	82	53
18....	77	54	83	50	89	46	96	55	94	61	61	51	94	58	92	61	67	52	87	62	90	58	86	62	92	63	63	49
19....	74	57	81	50	92	54	84	54	93	62	60	56	91	67	92	58	67	49	74	59	87	53	90	60	78	59	59	47
20....	73	58	77	53	95	52	73	58	90	68	60	56	92	62	91	59	67	56	68	59	89	60	89	60	68	58	59	55
21....	68	56	71	56	86	49	67	55	91	65	58	56	85	60	86	60	64	55	63	58	93	64	84	61	66	57	63	55
22....	.....	.....	68	57	73	52	66	55	86	62	58	56	80	54	82	54	60	54	66	55	86	62	67	55	66	57	58	53
23....	.....	.....	70	57	60	45	71	54	76	59	59	56	78	55	74	54	62	53	68	57	94	71	73	54	68	57	59	53
24....	.....	.....	71	57	72	53	69	55	76	58	59	56	82	55	78	59	62	49	67	57	92	68	73	57	67	56	60	53
25....	.....	.....	68	47	77	51	73	54	78	56	61	56	82	53	78	58	62	49	69	57	102	71	77	59	69	56	62	54
26....	.....	.....	70	54	82	43	78	45	81	55	63	57	85	53	83	46	64	48	71	53	96	74	78	55	72	54	66	54
27....	.....	.....	72	44	86	42	81	43	88	55	59	55	88	55	88	44	62	43	73	54	91	70	84	49	73	52	62	52
28....	.....	.....	70	44	90	43	84	44	90	59	58	55	92	57	92	49	61	47	76	54	95	69	89	53	75	52	62	53
29....	72	47	77	42	94	43	89	45	93	58	58	53	96	60	99	49	59	42	77	54	100	78	92	54	78	53	62	52
30....	71	49	77	43	92	54	76	46	99	61	58	53	94	66	99	58	63	41	77	55	92	62	94	57	75	53	60	50
31....	70	50	76	52	82	55	80	58	93	74	56	51	95	62	89	71	61	50	74	58	95	72	86	70	75	58	57	53
Mns..	70.7a	50.2a	72.3	49.3	81.6	48.2	77.3	49.6	85.6	57.9	60.0	53.7	86.0	56.4	84.0	52.3	63.5	48.2	71.5	55.3	88.1	61.5	78.7	54.5	72.4	54.1	60.0	51.3

TABLE 3.—*Maximum and minimum temperatures for July, 1912. District No. 12*—Continued.

Date.	Walla Walla, Wash.		Oregon.																			
			Ashland.		Baker.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	60	51	67	43	57	38	63	46	65	45	64	48	66	44	59	53	.....	.....	68	47	66	53	73	44
2	65	49	70	43	53	42	62	47	66	50	72	48	64	54	68	54	.....	.....	63	51	73	47	65	48
3	77	56	76	43	66	43	70	50	69	50	80	54	64	49	75	53	.....	.....	79	49	82	48	78	35
4	82	56	80	50	73	42	69	52	68	49	85	52	63	51	72	56	.....	.....	81	50	81	54	81	40
5	75	57	71	56	71	50	67	51	64	53	77	58	62	53	64	55	.....	.....	69	55	75	58	87	43
6	76	55	71	48	67	48	68	50	61	50	78	56	60	51	63	55	.....	.....	70	52	71	56	81	50
7	71	54	73	45	60	47	70	53	68	49	75	55	70	45	64	54	.....	.....	75	50	74	54	76	45
8	78	53	78	47	67	40	72	49	66	54	81	50	64	51	71	55	.....	.....	74	57	81	50	78	41
9	85	59	85	50	77	42	79	52	69	50	88	48	62	50	83	56	.....	.....	86	50	90	53	86	43
10	89	63	87	59	85	47	82	53	61	46	91	58	63	50	79	55	.....	.....	86	54	89	58	96	43
11	82	62	84	69	73	48	80	51	66	46	89	59	66	52	75	54	.....	.....	77	54	84	60	90	57
12	90	62	87	52	81	48	79	52	65	49	92	52	64	50	84	57	.....	.....	87	51	91	57	92	48
13	80	64	86	58	77	48	77	51	70	50	91	52	62	51	72	59	.....	.....	81	53	89	62	94	44
14	87	57	90	55	76	46	87	54	60	47	89	52	68	44	88	58	.....	.....	89	49	93	64	88	47
15	95	58	95	60	84	48	90	54	72	47	95	50	78	46	93	65	.....	.....	99	56	98	60	95	46
16	99	69	98	63	89	49	95	60	70	50	101	52	77	48	95	62	.....	.....	100	58	100	60	99	52
17	95	63	86	67	89	55	91	65	66	51	101	67	75	51	96	65	.....	.....	91	62	98	62	101	52
18	95	65	90	64	77	58	91	57	66	52	95	65	66	55	96	68	.....	.....	93	66	98	68	98	73
19	92	70	86	60	80	55	79	56	64	54	94	63	69	51	87	62	.....	.....	79	58	95	72	90	51
20	94	61	77	57	82	52	77	55	66	55	94	62	66	51	71	59	.....	.....	64	58	91	67	93	59
21	85	62	69	54	76	51	79	49	68	50	87	60	71	54	66	56	.....	.....	70	57	99	62	92	52
22	75	60	77	53	62	47	74	57	67	52	84	58	72	51	69	59	.....	.....	75	56	75	60	90	49
23	76	60	72	50	74	41	73	58	67	50	78	56	70	52	70	60	.....	.....	76	59	76	61	87	39
24	83	61	76	54	81	50	70	56	67	51	83	60	64	51	66	59	.....	.....	72	56	80	63	94	46
25	84	60	72	51	77	49	74	58	69	59	86	60	66	49	77	56	.....	.....	75	53	79	58	93	52
26	84	60	83	52	78	49	75	50	69	51	85	54	65	48	77	54	.....	.....	80	50	84	51	94	51
27	91	59	87	55	82	48	79	51	68	52	92	48	68	55	82	56	.....	.....	85	52	90	53	98	51
28	94	67	91	57	85	51	82	52	68	52	94	50	63	53	85	58	.....	.....	88	53	92	58	101	55
29	100	61	93	59	87	58	87	56	60	53	100	50	68	53	88	61	.....	.....	92	54	98	59	99	59
30	88	71	89	62	81	59	85	60	62	53	97	62	62	54	79	62	.....	.....	84	58	92	59	96	68
31	91	74	82	62	78	56	71	56	66	54	95	68	64	55	70	58	.....	.....	74	57	87	62	91	62
Means	84.5	60.6	81.5	54.8	75.6	48.5	77.3	53.6	66.2	50.8	87.4	55.7	66.5	50.7	76.9	57.8	.....	.....	80.1	54.4	85.5	58.2	89.5	49.8

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

WEATHER, FORECASTS, AND WARNINGS.

By H. C. FRANKENFIELD, Professor of Meteorology.

Alaska.—Pressure averaged above normal for the month. The more important lows occurred about the 1st–3d, 13th–14th, 20th–21st, and 26th–27th; and highs about the 6th–8th, 15th–19th, and 21st–24th. The subpermanent area of high pressure over the Pacific Ocean was north of its normal position during the latter half of the month.

Honolulu.—Pressure averaged slightly below normal for the month. Lows occurred on the 6th–7th, 10th, 13th, 26th, and 30th; and highs on the 1st, 3d–4th, 8th, 15th, 24th, and 27th–28th.

Iceland.—Pressure fluctuations were well marked. Lows occurred on the 4th, 9th, 11th, 14th–15th, 17th–18th, 20th, 24th, and 29th; and highs on the 2d, 5th, 13th, 16th–17th, 18th–19th, 22d, 26th, and last day of the month.

Azores.—Pressure during the month averaged near the normal, with an absence of marked changes, except on the 24th–25th. Lows occurred on the 8th, 11th, 15th–16th, 24th–25th, 26th–27th, and 29th; and highs on the 2d, 5th, 13th–14th, 17th–22d, and on the last of the month.

Siberia.—Storm movement over this area was erratic. Lows occurred about the 7th, 13th–14th, 18th, 23d–24th, and 28th; and highs about the 10th, 21st, 26th and 30th–31st. Severe storms were experienced on the Asiatic east coast on the 2d, 15th, and 28th.

Miscellaneous.—A cable report dated the 16th gave the information that London was suffering from a heat wave that had at that time persisted for several days.

In the United States the month opened with high pressure over the north Pacific coast and over the Lake region, while from the Plains States to the southern Plateau region pressure was relatively low. Temperatures were below normal, except over the Plains States.

The high-pressure area that was central over the Lake region on the morning of the 1st settled slowly southward and southeastward and dominated weather conditions in the Middle and South Atlantic States up to the 10th of the month. From the 1st to the 3d showers and thunderstorms were quite general over the Great Central Valleys and the East Gulf States, and in the Lake region during the 2d and 3d.

The following weekly forecast was issued Sunday, July 7:

Pressure distribution of the summer type continues over the Northern Hemisphere, and the weather for the comong week will therefore be generally warm east of the Rocky Mountains and over the interior middle and southern districts to the westward. The highest temperatures will probably be experienced in the Great Central Valleys and along the eastern slope of the Rocky Mountains. There will be no well-defined storms, and precipitation will be limited to local thunderstorms or heat showers that will not overspread extensive areas i any one day. In the South Atlantic and East Gulf States the showers will probably be less frequent than during the week just ended.

For the week ending July 8th, temperatures averaged decidedly above normal in northern districts from the Rocky Mountains eastward to the Lake Region. Temperatures were also above normal in New England, but elsewhere they were below the seasonal average. Rain fall was copious over the Middle and East Gulf States, the South Atlantic States, and the Ohio Valley. During the week high temperatures occurred in the Lake region and suffering was reported from the heat in that region, as well as in the Middle Atlantic and New England States. On the 4th and 5th, at points in the far Southwest, temperatures were lower than had occurred during the first decade of July in 40 years.

Pressure remained relatively low over the Rocky Mountain region from the 1st to 8th. From the 8th to 11th a low-pressure area attended by showers and thunderstorms passed from the Plains States to northern New England. Showers occurred in the Middle and Eastern Gulf States and the weather remained unsettled for several days following in the New England and Middle Atlantic States.

From the morning of the 11th to the evening of the 18th a low-pressure area passed from the northern Rocky Mountain region to eastern Ontario, attended by showers and thunderstorms in central and northern districts.

From the 7th to 19th showers occurred almost daily in the South Atlantic and portions of the East Gulf States.

The following weekly forecast was issued Sunday, July 14:

Pressure over the Northern Hemisphere has become somewhat unstable, indicating that the weather during the coming week will be more changeable than during last week over the central and northern portions of the country. The week will open cool and showery over the Rocky Mountain region and the Northwest, followed by moderately warm and generally fair weather by the middle of the week, and by a return to cooler weather at the close. Over the Missouri and upper Mississippi valleys and the upper Lake region lower temperatures and showers will be experienced by Tuesday, continuing for a day or two, and followed by moderately warm and generally fair weather toward the end of the week. Over the Ohio Valley, the lower Lake region, and the northeastern districts warm and generally fair weather will continue during the first half of the week, followed by somewhat lower temperatures and local showers during the second half.

In the Gulf States and the Southwest warm and generally fair weather will continue, while in the South Atlantic States local thundershowers during the first half of the week will be followed by generally fair weather toward the close.

For the week ending July 15 temperatures averaged decidedly above normal from the southern Plains States to New England, in which latter district the greatest excess occurred. Temperatures were below the seasonal average over the Dakotas, Montana, Idaho, and Wyoming. High temperatures occurred over central and northern districts, causing much suffering as well as many deaths in some of the larger cities. Precipitation was well distributed during the week from the Missouri Valley and middle Gulf States eastward.

From the morning of the 13th a low passed from Saskatchewan to eastern Maine by the 16th, attended by showers and thunderstorms and cooler weather over northern districts. Severe local storms occurred in connection with this disturbance in portions of Wisconsin and in northwestern Ohio. It was followed by an area of high pressure, the most important so far of the month, which passed inland over the North Pacific States during the night of the 13th. By the 16th it had advanced to

eastern Ontario, causing decided changes to cooler weather in northern and central districts. By the morning following it had passed to northern New England with decreased intensity.

On the evening of the 14th there was an unsettled condition off the Georgia coast, and by the morning of the 15th pressure had fallen slightly over that region, and a maximum wind velocity of 36 miles from the east was reported from Charleston. Storm warnings were ordered from Charleston to Jacksonville, and special observations were called for, but no further development was noted. Heavy rains, however, occurred over Georgia and South Carolina, and a maximum wind velocity of 46 miles from the southeast was reported on the morning of the 16th from Charleston. This disturbance caused showers and thunderstorms over the East Gulf and South Atlantic States for several days following the 16th.

A low-pressure area of slight intensity that was over Alberta on the evening of the 15th passed eastward along the northern border and by the evening of the 18th was over the St. Lawrence Valley, having caused showers and thunderstorms over New England, the Middle Atlantic States, and the lower Lake region. During the next 24 hours it passed from the region of observations.

Showers were of almost daily occurrence in the East Gulf and South Atlantic States from the 1st to the 20th of the month.

A high-pressure area that was over Saskatchewan on the 17th moved to the southern Plains States by the 18th, and during the two days following passed to the Middle Atlantic coast.

The following weekly forecast was issued Sunday, July 21:

Moderate temperatures will prevail over the northern half of the country during the first half of the coming week, followed by warmer weather that will reach the extreme Northwest about Thursday and extend eastward to the Atlantic at the end of the week, at the same time continuing in the West. In the South the weather will be moderately warm.

The weather will be unsettled and showery Monday over the northern districts east of the Rocky Mountains, followed by generally fair weather during the remainder of the week, except in the Northwest where there will be a return to unsettled weather by Thursday or Friday. In the extreme central west and in the South the week will be generally fair except in the East Gulf and South Atlantic States where showers are probable during the second half of the week.

For the week ending July 22 temperatures averaged generally below normal over the northern half of the country from the Rocky Mountains to the Atlantic coast, being decidedly so from the northern Plains States to the upper Lake region. On the immediate Pacific coast temperatures averaged above normal, while elsewhere throughout the country they were moderate for the season. Precipitation occurred quite generally throughout the country.

An area of low pressure and showers passed from the Rocky Mountain region on the 20th eastward to the lower Lakes by the following morning and during the next 24 hours to New England. Showers and thunderstorms occurred over central and northern districts from the Plains States to New England, and precipitation was heavy in portions of western Pennsylvania. By the morning of the 23d the storm was over Nova Scotia, in which region it persisted until the 26th. Pressure was low over the Canadian maritime provinces until the end of the month.

The above-mentioned disturbance was followed by a high-pressure area of slight intensity that appeared over the Canadian northwest on the 20th and moved to the Eastern States by the 23d. During the next 36 hours it settled southward with decreased intensity.

A disturbance that was over Utah and one that was over Alberta on the morning of the 22d united and moved eastward to a position off Cape Hatteras by the 25th. It was attended by showers and thunderstorms in northern districts from the Plains States eastward.

This storm was followed by a high-pressure area of slight intensity that appeared over Saskatchewan on the 25th and moved slowly southeastward during the next three days with decreasing intensity.

A disturbance that was over Saskatchewan on the morning of the 27th passed rapidly eastward during the next 48 hours to Quebec, with decreased intensity, attended by showers and thunderstorms in northern districts. A great deal of damage was caused to telephone and telegraph wires on the 27th in Manitoba.

During the remainder of the month no well-defined high or low pressure area crossed the United States.

The following weekly forecast was issued Sunday, July 28:

Pressure distribution over the Northern Hemisphere indicates that the coming week will not be one of decided temperature changes over the United States. Warm weather will continue in the South and the Southwest, a moderate fall in temperature Monday over the upper Lake region, the upper Mississippi and the Missouri valleys will be followed by another rise Tuesday and Wednesday, and by little change thereafter. It will be warmer Monday over the northeastern districts, but no unusually warm weather is expected during the week. It will be cooler in the extreme Northwest by the end of the week.

There will be showers Monday from the southern upper Lake region and the upper Ohio Valley eastward into New York and New England, followed by generally fair weather during the remainder of the week, while in the West and Southwest fair weather will prevail. In the Northwest showers are probable toward the end of the week. In the South generally fair weather during the first half of the week will be followed by local showers during the second half.

For the week ending July 29 temperatures averaged above normal throughout the Great Plains region, Missouri Valley, and southern districts east of the Rocky Mountains. From the Ohio Valley and Lake region eastward over the Middle Atlantic and New England Sates temperatures were continuously below the seasonal average. Precipitation was deficient in central and southern districts and fairly well distributed over northern districts as well as in the southern Rocky Mountain region.

During the last day of the month precipitation occurred over the Ohio Valley and the eastern and central Gulf States.

No storm of tropical origin occurred during the month.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since Jan. 1.	Average departures since Jan. 1.
New England	12	69.1	+0.3	−10.0	−1.4
Middle Atlantic	15	73.9	−0.6	−11.4	−1.6
South Atlantic	10	78.9	−0.1	− 6.0	−0.9
Florida Peninsula [1]	9	81.7	+0.4	+ 1.5	+0.2
East Gulf	11	79.9	−0.4	−11.5	−1.6
West Gulf	14	83.3	+1.3	−14.9	−2.1
Ohio Valley and Tennessee	14	76.2	−0.6	−19.6	−2.8
Lower Lakes	11	70.8	−0.9	−24.2	−3.5
Upper Lakes	13	67.2	−0.9	−25.1	−3.6
North Dakota [1]	9	66.2	−1.9	− 8.9	−1.3
Upper Mississippi Valley	14	75.0	−0.4	−24.3	−3.5
Missouri Valley	12	76.6	+1.0	−14.2	−2.0
Northern slope	9	65.4	−2.7	−10.2	−1.5
Middle slope	6	76.7	+0.8	−17.4	−2.5
Southern slope [1]	8	82.7	+2.3	−10.1	−1.4
Southern Plateau [1]	10	76.9	+3.3	− 3.9	−0.6
Middle Plateau [1]	10	68.7	−2.6	− 4.9	−0.7
Northern Plateau [1]	10	66.2	−2.9	− 1.7	−0.2
North Pacific	7	61.3	+0.1	+ 7.5	+1.1
Middle Pacific	7	63.7	−1.8	− 1.5	−0.2
South Pacific	4	69.4	−0.4	+ 2.9	+0.4

[1] Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
New England	11	3.43	94	−0.20	− 0.50
Middle Atlantic	15	3.72	86	−0.60	− 0.70
South Atlantic	11	3.68	61	−2.40	+ 0.70
Florida Peninsula [1]	9	6.22	103	+0.20	+11.20
East Gulf	11	5.76	110	+0.50	+13.30
West Gulf	10	0.95	29	−2.30	− 1.60
Ohio Valley and Tennessee	14	5.53	137	+1.50	+ 3.30
Lower Lakes	10	3.53	106	+0.20	− 0.10
Upper Lakes	13	4.07	133	+1.00	− 1.70
North Dakota [1]	9	4.30	159	+1.60	+ 1.10
Upper Mississippi Valley	15	4.17	114	+0.50	− 1.80
Missouri Valley	12	2.66	69	−1.20	− 3.10
Northern slope	9	2.54	155	+0.90	+ 0.30
Middle slope	6	1.87	63	−1.10	− 0.60
Southern slope [1]	8	1.54	52	−1.40	− 3.20
Southern Plateau [1]	9	1.76	129	+0.40	+ 0.60
Middle Plateau [1]	11	1.07	188	+0.50	0.00
Northern Plateau [1]	10	1.27	189	+0.60	+ 1.00
North Pacific	7	0.97	126	+0.20	− 3.00
Middle Pacific	7	0.02	100	0.00	− 3.40
South Pacific	4	0.04	100	0.00	− 0.30

[1] Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departure from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	76	− 4	Missouri Valley	64	− 2
Middle Atlantic	73	− 1	Northern slope	64	+12
South Atlantic	80	0	Middle slope	61	+ 1
Florida Peninsula	78	0	Southern slope	54	− 5
East Gulf	81	+ 3	Southern Plateau	44	+ 6
West Gulf	70	− 4	Middle Plateau	44	+12
Ohio Valley and Tennessee	77	+ 8	Northern Plateau	49	+ 8
Lower Lakes	72	+ 3	North Pacific	77	+12
Upper Lakes	77	+ 5	Middle Pacific	63	− 3
North Dakota	75	+ 9	South Pacific	65	+ 1
Upper Mississippi Valley	72	+ 4			

Average cloudiness and departure from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	5.1	0.0	Missouri Valley	4.0	−0.2
Middle Atlantic	4.6	−0.3	Northern slope	5.2	+1.5
South Atlantic	5.7	+0.5	Middle slope	4.2	+0.1
Florida Peninsula	5.2	0.0	Southern slope	3.3	−1.2
East Gulf	5.8	+0.4	Southern Plateau	3.4	+0.1
West Gulf	3.3	−0.8	Middle Plateau	4.5	+1.4
Ohio Valley and Tennessee	6.0	+1.4	Northern Plateau	4.5	+1.8
Lower Lakes	5.0	+0.5	North Pacific	5.5	+0.9
Upper Lakes	5.6	+1.0	Middle Pacific	3.9	+0.4
North Dakota	4.3	−0.1	South Pacific	3.4	+0.6
Upper Mississippi Valley	4.6	+0.3			

Data, maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Denver, Colo.	14	55	ne.	Nashville, Tenn.	15	53	se.
Eastport, Me.	22	54	e.	Pierre, S. Dak.	8	59	w.
El Paso, Tex.	15	50	ne.	Point Reyes Light, Cal.	1	52	nw.
Lincoln, Nebr.	9	54	nw.	Do.	2	62	nw.
Minneapolis, Minn.	12	80	nw.	Do.	20	50	nw.
Mount Tamalpais, Cal.	16	60	nw.	St. Paul, Minn.	12	62	n.
Do.	20	59	nw.	Walla Walla, Wash.	20	52	sw.
Do.	21	58	nw.				
Do.	22	62	nw.				

RIVERS AND FLOODS, JULY, 1912.

By H. L. HEISKELL, Marine Meteorologist, Chief of Division.

About the only flood of consequence during the month of July was that which occurred in the Wisconsin River during the latter half of the month. It was one of the most destructive on record for that section of the country, conservative estimates placing the loss at more than half a million dollars. At Wausau, Wis., the crest stage was 15.3 feet, 1.8 feet higher than ever before recorded at that place.

High water occurred in the upper Arkansas River, and although considerable lowland was flooded the damage was not great.

The annual rise in the Columbia River receded during the early part of the month, without having caused any damage of consequence. The warnings issued by the Weather Bureau in connection with this rise were timely and accurate, and resulted in the saving of considerable property.

A rise to slightly above flood stage occurred in the lower Ocmulgee River near the close of the month. Warnings were issued in ample time and no material losses resulted.

In the other rivers of the country about the usual summer stages prevailed.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Junior Professor in Charge of Library.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Anonymous publications are indicated by a ———.

Aachen. Meteorologisches Observatorium.
Deutsches meteorologisches Jahrbuch für 1910. Aachen. Jahrg. 16. Karlsruhe. 1912. 31 p. f°.

Alsace-Lorraine. Meteorologische Landesanstalt.
Deutsches meteorologisches Jahrbuch für 1906. Elsass-Lothringen. Strassburg. 1912. viii, 57 p. f°.

Blinkenberg, Chr.
The thunderweapon in religion and folklore. Cambridge. 1911. xii, 122 p. illus. map. 8°. [A Danish edition was published by Tillge, Copenhagen, in 1909.]

Brand, W.
Stündliche Werte des Luftdrucks und der Temperatur am Danmarks-Havn. København. 1912. [4,][361]–445 p. 4°. (Danmarks-Eksped. til Grønlands Nordøstkyst 1906–1908, Bind 2, Nr. 5. Særtryk af Meddelelser om Grønland 42.)

British East Africa. Department of agriculture.
Meteorological records, 1909. 6th annual report. Nairobi. 1911. 38 p. 8°.

Brotherus, V [iktor] F[erdinand].
Pflanzenphänologische Beobachtungen in Finland, 1907. Helsingfors. 1911. 44 p. 8°. (Bidrag till kännedom af Finlands natur och folk, Finska vetenskaps-soc., H. 71, No. 1.)

Cave, C[harles] J[ohn] P[hilip].
The structure of the atmosphere in clear weather. A study of soundings with pilot balloons. Cambridge. 1912. xii, 144 p. illus. 4°.

Coimbra. Observatorio meteorologico.
Observações meteorologicas, magneticas e sismicas, 1911. v. 50. Coimbra. 1912. viii, 158 p. f°.

Colegio Nuestra Señora de Montserrat, [Cienfuegos, Cuba]. Observatorio.
Anales, No. 1. Observaciones meteorológicas de 1911. Habana. 1912. 33, [80] p. f°.

Demtchinskiĭ, N. A.
Météorologie dynamique. [Moskva. 1912.] 28 p. 4°. [French and German text.]

Egypt. Survey department.
Meteorological report for the year 1909. Part 1: Helwan observatory. Part 2: Climatological, rainfall and river gauge observations. Cairo. 1912. 2 pts. f°.

[Finska vetenskaps-societeten.]
Tables générales des publications de la Société des sciences de Finlande, 1838–1910. Helsingfors. 1912. 154 p. 8°. [Meteorology, p. 128–130.]

Fröhlich, Otto. [Stuttgart. 1912.] 253–256 p. 8°.
Klima und Fischereiertrag. (Sonderabdruck aus Fühlings landwirtschaftliche Zeitung [Stuttgart], 1912, **61**. Jahrg., 1912, Heft 7.)

Fröhlich, Otto.
Das Wesen, die Methoden und allgemeinen Zwecke der Meteorologie. n. p. n. d. 223–232 p. 8°. (Kath. Schulblatt, Jahrg. **58**.)

Greifswald. Meteorologische Station.
Die Ablesungen, 1. Januar–31. Dezember 1911, nebst Jahresübersicht über das Jahr 1911. Greifswald. 1912. 48 p. 8°.

Haldane, J[ohn] S[cott].
Methods of air analysis. London. 1912. x, 130 p. illus. plate. 12°.

Hammel, Ludwig.
Die Ausnutzung der Windkräfte unter besonderer Berücksichtigung der ländlichen Gemeinde-Wasser- und Elektrizitätsversorgung. Berlin. 1911. 127 p. illus. 8°.

Hellmann, G[ustav].
Regenkarten der Provinz Schlesien. 2te verm. Aufl. Berlin. 1912. 26 p. 2 plates. 4°. (Veröffentl., K. preuss. met. Inst., Nr. 247.)

Hellmann, G[ustav].
Regenkarten der Provinzen Westpreussen und Posen. 2te verm. Aufl. Berlin. 1912. 26 p. 2 plates. 4°. (Veröffentl., K. preuss. met. Inst., Nr. 248.)

Ihne, E[gon].
Phaenologische Mitteilungen (Jahrgang 1911). Darmstadt. 1912. 44 p. 8°. (Arb. d. Landwirtschaftskammer f. d. Grossh. Hessen, Heft Nr. 11.)

Japan. Central meteorological observatory.
Annual report for the year 1910. Part 1: Meteorological observations in Japan. Part 2: On the barometric depressions in the year 1910. Tokio. 1912. 2 pts. 4°.

Jurva, Risto.
Öfver åskvädren i Finland, 1906. Helsingfors. 1912. 154 p. 8°. (Bidrag till kännedom af Finlands natur och folk, Finska vetenskaps-soc., H. 71, No. 2.) [Published also in Finnish under the title "Ukonilmoista suomessa 1906."]

Karsten, Hugo.
Untersuchungen über die Eisverhältnisse im Finnischen Meerbusen und im nördlichen Teile der Ostsee. 1: Beobachtungen, 1897–1902. Helsingfors. 1911. 91 p. 5 charts. f°. [Finnlandische hydrograph.-biolog. Untersuch. No. 6.]

Love, E. F. J. & Smeal, G.
The psychrometric formula. [Melbourne.] 1912. 201–220 p. (*Reprint:* Proc. Roy. soc. Victoria, 1911, v. **24** (n. s.), pt. 2.)

[Marriott, R. A.]
An explanation of the Drayson theory giving additional proofs and facts confirmatory of the arguments contained in the pamphlet, "Why we may expect warmer winters." [Lewes. 1912.] 22 p. 8°.

Mazelle, Eduard.
Wind und Wetter in der Adria. 12 p. 4°. (Separatabdruck aus der Österr. Rundschau, Bd. 31, Hft. 3.)

Messina. Osservatorio.
Annuario dell' anno 1908 (anno 5). Messina. 1911. vi, 99 p. 8°.
Annuario dell' anno 1909 (anno 6). Messina. 1912. vi, 76 p. 8°.

Mysore. Meteorological department.
Report on rainfall registration in Mysore for 1910, by N. Venkatesa Iyengar. Bangalore. 1912. xvi, 47 p. 6 plates. 4°.

Okhlîabinin, S.
Sravnenîe angliĭskikh klîetok (budok) razlichnykh varĭantov s psikhrometrom Asmana lîetom 1911 g. v Baĭram-Ali, zakaspîĭskoĭ oblasti. S.-Peterburg. 1912. 181–206 p. 4°. (Izv. Imp. akad. nauk., 1912.)

Osaka. Meteorological observatory.
Annual report for the year 1911. Part 1: Meteorological observations. Osaka. 1912. 205 p. 8°. [Text in Japanese.]

Prague. K. k. Sternwarte.
Magnetische und meteorologische Beobachtungen im Jahre 1911. 72. Jahrg. Prag. 1912. iv, 47 p. f°.

Russia. Central physical observatory.
Annales. Année 1908. St.-Pétersbourg. 1911. 2 pts. f°.

Russia. Hydrographic office. Meteorological section.
Sbornik gidro-meteorologicheskikh nablîudenĭi: Recueil des observations hydro-météorologiques. Vypusk 10. 1910 god. S.-Peterburg. 1911. xxxii, 171 p. 4°. [Text in Russian.]

Rykachev, M. A.
Otchet o kommandirovkîe na îug Rossîi. [Report on the expedition to southern Russia]. S.-Peterburg. 1911. 967–980 p. 4°. (Izv. Imp. akad. nauk., 1911.)

Schröder, Paul.
Über die vertikale Verteilung der Temperaturschwankungen um den Frostpunkt in Mitteleuropa. Leipzig. 1912. 62 p. tables. map. 8°. (Diss.—Leipzig.)

Størmer, Carl.
Bericht über die Expedition nach Bossekop zwecks photographischer Aufnahmen und Höhenmessungen von Nordlichtern. Kristiania. 1911. [iii] 111 p. plates. 4°. (Videnskapsselsk. Skrifter. 1. Mat.-naturv. Kl., 1911, No. 17.)

Stupart, R. F.
The climate of northern Ontario. (Trans. Canad. inst., Toronto, May, 1912, v. 9, pt. 2, p. 149–152.)

Sweden. Hydrografiska Byrån.
Årsbok 2 för år 1910. Stockholm. 1912. [ix] 178 p. plates. map. f°.

Tsukubasan. [Observatory.]
Ergebnisse der meteorologischen Beobachtungen im Jahre 1909. Herausgegeben von dem Meteorologischen Zentral-Observatorium. Tokio. 1912. [iv] 129 p. f°.

RECENT PAPERS BEARING ON METEOROLOGY.

C. FITZHUGH TALMAN, Junior Professor in charge of Library.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ———.

Aero club of America bulletin. New York. v. 1. August, 1912.
Zahm, A. F. Eiffel's aerodynamic laboratory and studies. p. 3–6.
Moore, Willis L. Meteorology in aviation. p. 8.
Rotch, A. Lawrence. Aerial engineering. p. 9–10.
Humphreys, W[illiam] J[ackson]. Holes in the air. p. 32–34. [Reprint from Popular science monthly].

Aeronautics. London. v. 5. July, 1912.
Rawson, H. E. Meteorology. p. 208–210.

Engineering news. New York. v. 68. 1912.
Stevens, J. C. A new continuous water stage recorder. p. 166–167. (July 28.)
——— Flood on the Wisconsin river at and near Wausau, Wis. p. 233–235. (Aug. 1.)

Great Britain. Meteorological office. Geophysical memoirs. London. 1912.
Hepworth, M. W. Campbell. The effect of the Labrador current upon the surface temperature of the north Atlantic; and of the latter upon the air temperature and pressure over the British Isles. p. 3–10. (no. 1.)
Dines, W. H. The vertical temperature distribution in the atmosphere over England, with some remarks on the general and local circulation. p. 23–30. (no. 2.)
Dines, W. H. Total and partial correlation coefficients between sundry variables of the upper air. p. 31–47. (no. 2.)
Corless, R[ichard]. On the radiation records obtained in 1911 at South Kensington, together with a comparison between them and the corresponding absolute observations of radiation made at Kew observatory. p. 57–61. (no. 4.)

Scientific American supplement. New York. v. 74. 1912.
Zahm, A. F. Elements of theoretical aeronautics. Part II. Aerodynamics. p. 70–71. (Aug. 3.)
Gockel, A[lbert]. The correlation between sunspots and the weather. The evidence of periodic and abnormal occurrences. p. 102–103.
McDermott, F. Alex[ander]. The will-o'-the-wisp. p. 112. (Aug. 17.)

Terrestrial magnetism and atmospheric electricity. Baltimore. v. 17. June, 1912.
Strong, W. W. The penetrating radiation. p. 49–69.

Académie des sciences. Comptes rendus. Paris. t. 155. 22 juillet 1912.
Vallot, J[oseph]. L'absorption comparée, entre le mont Blanc et Chamounix, des radiations chimiques et calorifiques du soleil. p. 332–335.

Cosmos. Paris. 61 année. 1912.
Janet, C. Sur la forme probable de la partie émergée de quelques icebergs. p. 131–133. (1 août.)
Marmor, —. Prévision des orages et dispositifs paragrêles. p. 159–163. (8 août.) [Illustrated.]

Progrès agricole et viticole. Montpellier. 29 année. 1912.
Vidal. Les tirs de fusées contre la grêle. p. 556–570. (5 mai.)
——— Soins à donner aux vignes grêlées. p. 737–738. (16 juin.)

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 40. Jahrgang. Heft 7. 1912.
Mey, A. Die Vorhersage der Niederschläge. p. 364–371.
——— Beiträge zur Küstenkunde von West-Spitzbergen. p. 371–392. [Includes notes on wind, weather, and climate.]

Himmel und Erde. Berlin. Jahrgang 24. Juli 1912.
Bönke, H. Die Elektronentheorie der Polarlichterscheinungen. p. 433–445.

Meteorologische Zeitschrift. Braunschweig. Band 29. Juli 1912.
Bemmelen, W. van. Die Temperatur des tropischen Luftmeeres nach Beobachtungen mittels Registrierballons in Batavia. p. 305–308.
Kassner, C[arl]. Carl Heinrich Wilhelm Mahlmann. Zum 100. Geburtstag des Organisators des preussischen meteorologischen Instituts. p. 309–318.
Obermayer, Albert v. Dr. Josef Lorenz von Liburnau. Präsident der österr. meteorologischen Gesellschaft. 1878 bis 1899. p. 318–323.
——— Abbot Lawrence Rotch. p. 323–324.
Hann, J[ulius]. Temperatur und Regenfall zu Larnaka auf Cypern 1903–1909. p. 324–325.
Knoche, Walter. Einige Beobachtungen der stillen Entladungen über der Kordillere in Coya-Station. p. 329–330.

Österreichische Flug-Zeitschrift. Wien. 6. Jahrgang. 10. Juli 1912.
Urban, J. Die internationale Kommission für wissenschaftliche Luftschiffahrt. p. 315–324. (10. Juli.)
Nimfuhr, Raimund. Zur Theorie des aerodynamischen Fluges auf physikalisch-meteorologischer Grundlage. p. 315–324. (10. Juli.)
Rott, Leo. Messung der Luftströmungen. 2. Kinematische Anemometer. p. 342–345. (25. Juli.)

Physikalische Zeitschrift. Leipzig. 13. Jahrgang. 1912.
Wigand, Albert, & Schwab, Friedrich. Über die Untersonne und den Sonnenhalo von 22° Radius, mit Messungen und photographischen Aufnahmen vom Ballon aus. p. 677–684. (15. Juli.)
Werner, A. Über den Abfall der Sonnenintensität während der Finsternis vom 17. April 1912. p. 719–721. (1. August.)
Esau, A. Über den Einfluss der Atmosphäre auf funkentelegraphische Sender und Empfänger. p. 721–729. (1. August.)

Zeitschrift für Balneologie. Berlin. 6. Jahrgang. 1. Juli 1912.
Heim, Gustav. St. Helena als klimatischer Kurort. p. 203–211.

Hemel en Dampkring. Den Haag. 10. Jaarg. Juli 1912.
Schoute, C. Registreering van Loodsballon-banen. p. 38–42.

Netherlands. Koninkl. Nederlandsch meteorologisch Instituut. Mededeelingen en Verhandelingen. Utrecht. No. 13. 1912.

Van der Stok, J. P. Das Klima des südöstlichen Teiles der Nordsee, unweit der niederländischen Küste. p. 1–112.

Reale accademia dei Lincei. Atti. v. 21. no. 1. 14 Luglio 1912.

Eredia, Filippo. Andamento diurno della temperatura a Tripoli. p. 58–65.

OCCURRENCE OF PRECIPITATION ON CHANGE OF WIND TO NORTH WITH APPROACH OF A HIGH BAROMETER.

The following letter from Mr. Douglas F. Manning, of Alexandria Bay, N. Y., gives an interesting and plausible theory regarding the above:

DEAR SIR: Am sending you these few observations which I have taken concerning the cause of rain setting in soon after the wind changes to northerly with the approach of a "high." It seems very evident, especially from my observations on July 18, 1912, that the rain comes from the southerly winds which are lifted by the advancing cold or cool air which forms a wedge under the warm air.

On the above-mentioned date the day was clear with moderately warm south to southwest winds and slowly falling barometer. About 2 p. m., I noticed a cloudiness low down in the north, which reached overhead by 6 p. m., with the arrival of cool northerly winds. Strange to say these clouds were coming from the south and on close observation could be seen forming with the advancing north wind. They were alto-cumulus and cumulo-stratus, and as they moved northward became heavier and formed a leaden, uniform cloud sheet, from which rain began to fall in an hour or so. It rained steadily during the night with the upper clouds coming from the south, although fair weather prevailed in front of the advancing north wind, all of which seemed to show that the southerly winds were being lifted up by this wedge of cold air, and by expansion soon became cloudy and yielded rain. Fair weather prevailed the next day as the area of high pressure gained control.

When residing in Chicago I noticed sometimes, especially in the spring, that heavy rains fell from large cumulo-nimbus clouds which were coming from the southwest, while the surface wind was cool and northeasterly. At the same time hot, clear weather was prevailing with southerly winds a few hundred miles to the south, as shown on the weather maps. This seems to apply more to where a well-developed "high" causes cool, northerly winds to flow into a region of stagnant air and not so much as to where a well-defined "low" passes, for then the rains occur in the east and southerly winds in the front more so than after the north winds on the rear set in.

Maybe you are very well acquainted with the above conditions, but I thought no harm could result from my mentioning them.

Very truly, yours,

(Signed) DOUGLAS F. MANNING

NOTES.

CLIMATE OF PRINCE GEORGES COUNTY, MD.

In a very comprehensive history of the Physical Features of Prince Georges County, Md., recently issued by the Maryland Geological Survey, is an important chapter on the climate of that county, prepared by Mr. W. H. Alexander, section director, Weather Bureau, at Baltimore. This is one of a series of reports which it is intended shall cover each county of the State. Six of these have now been issued, each containing a chapter on the climate of the respective county.

In addition, there has been issued by the State a General Sketch of the Climate of the State, by Prof. F. J. Walz, of the Weather Bureau, and a very comprehensive report on the Weather and Climate of Baltimore, by Dr. Oliver L. Fassig, also of the Weather Bureau.

When all these reports have been collected and printed they will form a unique and invaluable summary of meteorological information for that State.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have 10 or more years of observations. Of course the number of such records is smaller than the total number of stations.

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS.

Temperature and precipitation by sections, July, 1912.

Section.	Temperature (°F.).								Precipitation (in inches and hundredths).					
	Section average.	Departure from the normal.	Monthly extremes.						Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	79.7	−0.4	Selma	102	28	Riverton	56	28	5.17	+0.10	Calera	8.99	Wetumka	1.83
Arizona	77.2	−4.0	3 stations	114	8†	Flagstaff (1)	26	5	3.20	+1.50	Lakeside	9.16	Aztec	T.
Arkansas	81.3	+1.4	2 stations	104	25†	2 stations	56	1†	2.82	−1.61	Prescott	7.15	Pond	0.38
California	71.0	−3.0	Middlewater	115	17	Quincy	23	1	0.06	+0.02	Dunsmuir	1.94	138 stations	0.00
Colorado	63.7	−2.0	Lamar	104	8	Chromo	17	8	2.90	+0.67	Sheridan Lake	7.03	Garnett	0.65
Florida	81.7	+0.4	Cleremont	104	27	3 stations	63	8†	5.66	−1.79	Molino	12.35	Fort Pierce	0.75
Georgia	79.5	−0.6	4 stations	100	25†	Diamond	55	31	5.71	+0.19	Clayton	13.48	Quitman	2.10
Hawaii	73.4	.....	Mahukona	91	15†	Humuula	36	9	3.08	.....	Honomu	11.91	2 stations	0.00
Idaho	65.1	−3.5	Weiser	106	17	Loon Creek	22	3	1.17	+0.85	Almo	3.62	Shoshone	0.01
Illinois	75.7	+0.2	Carlinville	100	24	Lanark	43	19	4.32	+0.56	Flora	9.53	Quincy	0.69
Indiana	74.9	0.0	Rome	100	15	Auburn	46	19	5.05	+1.10	Huntingburg	8.92	Forest Reserve	1.64
Iowa	74.6	+1.2	2 stations	103	14	Rock Rapids	38	17	3.70	−0.74	2 stations	7.56	Greenfield	1.17
Kansas	79.8	+2.3	Anthony	111	24	Republic	47	16	2.56	−1.46	St. Francis	6.65	Howard	0.24
Kentucky	76.8	0.0	Hopkinsville	100	15	Shelby City	53	28	5.50	+1.31	Mount Sterling	8.84	Blandville	1.84
Louisiana	82.0	+0.7	2 stations	104	30†	Laark	50	27	6.63	+0.46	Franklin	12.75	Plain Dealing	1.13
Maryland and Del.	74.3	−0.9	Emmitsburg, Md.	99	16	Deer Park, Md.	43	28†	5.28	+0.86	Emmitsburg, Md.	13.26	Pocomoke City, Md.	2.19
Michigan	68.1	−0.5	Deer Park	100	6	Seney	22	16	3.94	+0.84	Ludington	11.68	Mancelona	0.10
Minnesota	68.5	−0.5	Littlefork	98	5	3 stations	31	19	4.30	+1.12	Albert Lea	8.85	Itasca State Park	1.50
Mississippi	80.6	−0.2	Charleston	103	30	2 stations	61	9	5.02	+0.08	Lake	11.10	Greenville	0.82
Missouri	78.8	+1.8	2 stations	104	14†	3 stations	52	1†	2.74	−1.36	St. Louis (2)	6.22	Vandalia	0.18
Montana	62.6	−3.7	.....	.....	.....	.....	.....	.....	2.18	+0.78	.....	.....	.....	.....
Nebraska	74.8	+1.1	Fullerton	107	23	Hay Springs	36	15	3.26	−0.52	Grant	10.67	Fairbury	0.60
Nevada	68.6	−2.3	Logan	113	16	Geyser	25	4	0.67	+0.32	Eureka	3.38	Minn	T.
New England	69.6	+0.3	3 stations	101	10	Somerset, Vt.	31	1	3.17	−0.73	Block Island, R. I.	7.17	Fall River, Mass	1.21
New Jersey	73.7	0.0	Trenton	100	8	Charlotteburg	36	1	3.86	−1.09	Woodbine	9.91	Layton	1.01
New Mexico	71.3	−1.0	2 stations	106	10	Elizabethtown	25	6	2.19	−0.19	Gage	5.75	Alamogordo	0.15
New York	69.6	+0.3	Indian Lake	100	10	Indian Lake	28	1	2.97	−1.34	Lake Placid Club	6.10	Athens	1.15
North Carolina	75.8	−0.6	Parkersburg	99	26	Banners Elk	46	27	4.57	−1.71	Highlands	17.78	Chapel Hill	0.57
North Dakota	66.0	−1.7	Carson	106	11	2 stations	30	9†	3.54	+0.83	Walhalla	8.87	Aplin	0.49
Ohio	73.4	−0.1	Haydenville	101	15	New Waterford	42	19	5.70	+1.65	Bucyrus	9.84	Hamilton	1.90
Oklahoma	83.2	+2.9	2 stations	110	29	Goodwell	45	16	1.40	−1.74	Guthrie	5.25	Bartlesville	0.03
Oregon	64.7	−1.3	Blalock	107	16	Cliff	28	3	0.65	+0.07	Joseph	2.36	Mountain Ranch	0.00
Pennsylvania	71.3	−0.7	Lock Haven	100	8	4 stations	36	1	5.29	+1.03	West Newton	12.65	Milford	1.04
Porto Rico	78.5	−0.7	3 stations	95	1†	Maricao	56	3†	4.39	−2.39	San Sebastian	13.18	Aibonito	0.00
South Carolina	79.6	−0.3	Aiken	102	16	Greenville	58	27	5.22	−0.47	Pinopolis	10.47	Aiken	1.46
South Dakota	70.9	−0.4	Hardingrove	104	22	Pollock	32	15	3.86	+1.25	Sisseton	8.02	Ottumwa	1.08
Tennessee	77.4	+0.1	2 stations	99	14†	Erasmus	47	27	5.80	+1.16	Lynnville	10.50	Union City	2.22
Texas	84.3	+1.7	Graham	113	29	Dalhart	51	5	1.20	−1.71	Houston	7.06	15 stations	0.00
Utah	68.6	−3.1	Springdale	105	16	Strawberry	24	5	1.28	+0.66	Randolph	3.53	Milford	T.
Virginia	74.8	−0.4	Lincoln	100	18	Hot Springs	38	28	3.46	−1.19	Burkes Garden	7.43	Cape Henry	1.22
Washington	65.5	+0.7	Kennewick	107	20	Bumping Lake	33	7	1.05	+0.22	Goat Lake	3.89	Moses Lake	0.04
West Virginia	73.0	0.0	Martinsburg	100	9	2 stations	45	20†	7.48	+2.80	Cortland	15.22	Marlinton	2.67
Wisconsin	68.8	−0.4	Muscoda	100	9	Long Lake	28	19	6.24	+3.22	Merrill	15.26	Superior	1.39
Wyoming	61.3	−1.5	Basin	99	13	Fountain Y. N. P.	16	10	2.19	+0.94	Wyncote	6.24	Hyattville	0.17

† Other dates also.

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1912.*

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.								Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with .01 or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
New England.							**69.1**	**+ 0.3**									**76**	**3.43**	**− 0.2**									**5.1**		
Eastport	76	67	85	29.82	29.90	−0.03	60.1	+ 0.3	89	10	68	46	1	52	34	57	54	83	2.25	− 1.2	11	6,628	s.	54	e.	22	8	11	12	6.2		
Greenville	1,070	6	....	28.80	29.95	.....	65.4	.....	94	8	76	44	1	55	37	.....	.....	.....	3.45	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland, Me	103	81	117	29.84	29.96	+ .01	68.2	+ 0.2	92	9	77	51	20	60	28	61	57	72	2.50	− 0.8	10	6,314	s.	31	nw.	23	15	8	8	4.7	.....	.....
Concord	288	70	79	29.66	29.96	.00	70.2	+ 0.9	97	8	82	43	1	58	39	.....	.....	.....	2.43	− 1.4	7	3,408	nw.	27	nw.	22	11	14	6	4.6	.....	.....
Burlington	404	11	48	29.55	29.98	+ .04	68.3	+ 0.1	94	8	79	44	1	58	34	.....	.....	.....	3.24	− 0.5	12	6,200	s.	36	sw.	9	12	10	9	4.9	.....	.....
Northfield	876	16	60	29.05	29.98	+ .04	65.0	− 1.6	94	10	79	36	1	51	42	61	58	77	3.31	− 0.4	12	4,362	s.	27	n.	6	11	13	7	4.9	.....	.....
Boston	125	115	188	29.84	29.97	+ .01	73.2	+ 1.9	99	9	82	56	1	64	27	64	60	67	5.16	+ 1.8	5	7,203	sw.	29	nw.	19	10	10	11	5.7	.....	.....
Nantucket	12	14	90	29.98	29.99	+ .01	68.5	+ 1.0	82	9	74	55	1	62	17	64	63	88	4.90	+ 2.2	8	10,834	sw.	38	sw.	21	12	11	8	5.0	.....	.....
Block Island	26	11	46	29.96	29.99	+ .02	68.7	+ 0.6	82	9	74	55	1	64	16	65	64	88	7.17	+ 3.9	9	10,852	sw.	36	ne.	14	11	8	12	5.6	.....	.....
Narragansett	....	9	....	.....	.....	.....	68.5	− 1.4	90	9	76	48	2	60	25	.....	.....	.....	3.60	.....	10	.....	sw.	.....	.....	.....	16	7	8	.....	.....	.....
Providence	160	141	165	29.82	29.99	+ .02	72.2	− 1.2	96	9	82	51	1	63	27	65	60	69	1.76	− 1.8	7	7,200	s.	34	nw.	19	16	12	3	4.2	.....	.....
Hartford	159	122	140	29.82	29.99	+ .02	73.1	+ 1.5	98	9	83	48	1	63	32	64	59	67	2.90	− 1.2	9	5,566	s.	36	nw.	9	9	14	8	5.6	.....	.....
New Haven	106	116	155	29.88	29.99	+ .02	73.0	+ 1.1	95	9	82	51	1	64	27	65	60	69	2.14	− 2.6	9	6,126	s.	27	nw.	19	15	8	8	4.6	.....	.....
Middle Atlantic States.							**73.9**	**− 0.6**									**73**	**3.72**	**− 0.6**									**4.6**		
Albany	97	102	115	29.87	29.97	+ .01	73.2	+ 1.2	98	8	84	48	1	62	32	64	58	64	3.13	− 0.8	10	5,259	s.	40	sw.	9	17	9	5	4.0	.....	.....
Binghamton	871	78	88	29.10	30.02	+ .05	69.6	− 0.3	95	8	81	42	1	58	38	.....	.....	.....	2.90	− 0.6	13	2,939	nw.	20	sw.	17	4	8	19	6.9	.....	.....
New York	365	414	454	29.68	30.00	+ .02	74.0	+ 0.5	93	8	82	58	23	66	23	65	60	69	3.26	− 1.3	9	10,833	sw.	44	sw.	14	14	7	10	5.1	.....	.....
Harrisburg	374	94	104	29.64	30.03	+ .05	74.2	− 0.3	92	8	83	53	1	66	25	65	61	69	2.08	− 1.8	12	3,748	w.	27	nw.	11	9	15	7	5.5	.....	.....
Philadelphia	117	123	184	29.90	30.02	+ .04	76.2	+ 0.4	95	8	85	59	20	68	23	67	62	68	4.15	− 0.2	10	6,423	s.	27	sw.	29	12	13	6	4.8	.....	.....
Scranton	805	111	119	29.18	30.02	+ .04	71.8	0.0	94	10	82	46	20	62	35	64	60	69	2.11	− 1.7	12	4,382	s.	35	s.	13	11	11	9	4.8	.....	.....
Atlantic City	52	37	48	29.98	30.03	+ .05	72.0	− 0.5	85	29	78	55	1	66	22	67	65	80	5.91	+ 2.1	9	5,476	sw.	38	nw.	21	16	9	6	3.8	.....	.....
Cape May	18	13	49	30.03	30.05	+ .07	72.4	− 1.0	86	9	79	55	1	66	19	67	65	80	3.58	− 0.2	10	5,224	s.	30	nw.	18	16	10	5	3.7	.....	.....
Baltimore	123	100	113	29.90	30.02	+ .04	76.5	− 0.8	94	8	85	61	1	68	23	68	64	71	5.96	+ 1.1	10	4,527	s.	26	e.	14	12	13	6	4.3	.....	.....
Washington	112	62	85	29.91	30.03	+ .03	75.8	− 1.0	94	14	85	60	20	67	27	68	65	73	7.21	+ 2.6	11	4,101	s.	27	s.	14	19	7	5	4.1	.....	.....
Lynchburg	681	83	88	29.32	30.04	+ .03	77.2	− 0.1	93	21	87	59	31	68	28	69	66	75	3.64	− 0.4	11	2,782	sw.	22	s.	8	6	24	1	5.0	.....	.....
Mount Weather	1,725	10	54	28.25	30.02	+ .03	70.2	− 1.2	86	8	78	56	20	63	23	64	61	77	4.11	− 0.6	10	9,273	nw.	49	w.	15	9	14	8	5.4	.....	.....
Norfolk	91	102	111	29.96	30.06	+ .06	77.8	− 0.6	92	16	86	64	2	70	23	70	68	75	1.86	− 3.9	7	6,628	s.	36	w.	29	14	13	4	4.0	.....	.....
Richmond	144	189	197	29.90	30.05	+ .04	77.6	− 1.6	95	16	88	61	2	67	28	69	65	70	1.25	− 3.2	8	5,259	s.	28	sw.	15	14	13	4	3.9	.....	.....
Wytheville	2,293	40	47	27.75	30.06	+ .05	70.5	− 2.1	88	14	80	52	28	61	29	66	64	87	4.62	+ 0.2	19	2,910	w.	20	w.	21	12	16	3	4.3	.....	.....
South Atlantic States.							**78.9**	**− 0.1**									**80**	**3.68**	**− 2.4**									**5.7**		
Asheville	2,255	53	75	27.79	30.08	+ .06	72.0	+ 0.3	87	21	80	55	27	64	28	66	64	83	4.64	− 0.2	18	4,811	se.	29	se.	17	7	12	12	6.3	.....	.....
Charlotte	773	68	76	29.26	30.08	+ .06	77.7	− 1.0	93	22	86	65	2	69	22	70	68	81	3.56	− 1.9	18	3,907	sw.	34	sw.	31	4	17	10	6.2	.....	.....
Hatteras	11	12	47	30.06	30.07	+ .06	78.4	− 0.2	91	22	84	69	2	73	15	73	72	81	1.55	− 4.6	9	7,808	sw.	39	w.	24	17	12	2	3.6	.....	.....
Manteo	12	12	46	.....	.....	.....	76.7	.....	91	22	84	60	24	69	.....	.....	.....	.....	2.34	− 3.8	5	.....	sw.	.....	.....	.....	21	9	1	.....	.....	.....
Raleigh	376	103	110	29.67	30.05	+ .03	78.6	+ 0.1	94	22	87	64	2	70	24	70	67	74	1.28	− 4.8	9	5,353	sw.	32	s.	16	6	17	8	6.1	.....	.....
Wilmington	78	81	91	29.99	30.07	+ .06	79.0	+ 0.3	94	22	86	65	3	72	19	73	72	81	2.81	− 4.2	10	4,879	sw.	21	sw.	8	7	21	3	4.9	.....	.....
Charleston	48	11	92	30.01	30.06	+ .03	80.6	− 0.7	97	30	86	70	2	75	21	75	73	79	3.05	− 4.2	12	7,432	se.	39	se.	15	4	18	9	6.4	.....	.....
Columbia, S. C	351	41	57	29.70	30.07	+ .05	80.0	− 1.1	96	24	89	66	6	71	26	72	69	78	4.02	− 2.0	11	4,159	sw.	26	s.	16	6	16	9	5.9	.....	.....
Augusta	180	89	97	29.87	30.06	+ .04	80.4	− 0.1	96	24	89	69	31	72	24	73	70	77	5.57	+ 0.3	13	4,084	se.	32	se.	17	7	16	8	5.4	.....	.....
Savannah	65	150	194	29.98	30.06	+ .03	80.6	+ 0.1	97	26	88	70	11	74	23	75	73	80	4.87	− 1.3	12	7,062	se.	49	se.	15	5	13	13	6.4	.....	.....
Jacksonville	43	96	129	30.00	30.05	+ .02	81.8	+ 0.9	98	26	89	71	13	74	19	76	74	83	6.74	+ 0.5	11	5,849	se.	38	sw.	15	4	19	8	5.8	.....	.....
Florida peninsula.							**82.4**	**+ 0.5**									**78**	**5.10**	**− 1.3**									**5.2**		
Key West	22	10	53	30.01	30.03	.00	82.6	− 1.1	89	25	88	69	5	78	18	77	74	77	2.36	− 1.2	9	4,968	e.	19	se.	20	12	13	6	5.0	.....	.....
Miami	25	37	72	30.03	30.06	.....	82.0	+ 0.1	94	25	88	72	6	76	20	76	73	75	5.99	− 1.2	16	5,842	se.	28	s.	29	3	15	13	6.7	.....	.....
Sand Key	23	39	72	29.98	30.01	− .02	81.6	.....	89	11	84	73	9	79	10	77	75	79	1.14	.....	6	8,626	e.	32	se.	17	11	13	7	4.2	.....	.....
Tampa	35	79	96	30.02	30.05	+ .01	82.0	+ 2.0	94	28	90	70	5	74	20	75	74	82	6.96	− 1.5	17	4,717	ne.	30	ne.	19	10	15	6	5.0	.....	.....
Titusville	25	6	....	30.00	30.05	.....	83.0	+ 0.9	102	26	92	69	2	74	24	.....	.....	.....	3.23	.....	20	.....	e.	.....	.....	.....	6	21	4	5.2	.....	.....
East Gulf States.							**79.9**	**− 0.4**									**81**	**5.76**	**+ 0.5**									**5.8**		
Atlanta	1,174	190	216	28.86	30.08	+ .06	77.2	− 0.4	93	25	85	66	3	69	21	70	68	82	4.66	− 0.1	18	6,682	e.	44	w.	31	7	4	20	6.8	.....	.....
Macon	370	78	87	29.66	30.05	+ .03	80.3	+ 0.6	96	25	89	66	31	72	28	73	70	79	6.09	+ 1.5	14	3,842	se.	28	sw.	1	5	16	10	5.6	.....	.....
Thomasville	273	8	57	29.76	30.05	+ .02	80.8	− 1.0	97	30	91	67	31	71	30	73	72	85	5.34	0.0	15	2,896	e.	28	sw.	2	7	15	9	6.0	.....	.....
Pensacola	56	140	183	29.98	30.04	+ .03	80.4	− 1.0	97	26	86	69	2	75	18	75	73	80	6.26	− 1.0	14	7,521	s.	40	s.	21	7	13	11	5.4	.....	.....
Anniston	741	9	57	29.30	30.08	+ .06	77.8	− 0.1	95	25	87	60	27	68	29	.....	.....	.....	4.23	− 0.5	17	3,258	se.	28	n.	31	4	18	9	5.9	.....	.....
Birmingham	700	11	48	29.32	30.07	+ .06	78.6	− 2.9	95	25	87	64	27	70	23	72	70	83	5.65	+ 1.0	17	4,003	se.	26	n.	25	6	18	7	5.7	.....	.....
Mobile	57	98	106	29.98	30.04	+ .03	81.3	+ 0.8	98	26	88	70	6	74	24	74	72	79	6.79	− 0.2	13	4,558	s.	32	s.	6	11	11	9	5.2	.....	.....
Montgomery	223	100	112	29.81	30.05	+ .03	80.6	− 0.4	95	29	89	67	27	72	24	73	70	79	5.65	+ 1.0	13	3,937	se.	30	sw.	9	12	10	9	4.9	.....	.....
Meridian	375	84	93	29.65	30.03	+ .01	79.4	− 0.6	93	30	88	67	28	71	26	73	71	81	7.76	+ 3.3	17	2,797	sw.	21	w.	23	3	15	13	6.5	.....	.....
Vicksburg	247	62	74	29.77	30.05	+ .05	80.6	+ 0.2	94	26	89	69	12	72	21	74	72	84	3.60	− 0.8	14	3,192	s.	26	e.	16	5	18	8	5.7	.....	.....
New Orleans	51	90	121	29.98	30.03	+ .03	81.8	+ 0.5	95	26	88	70	1	75	17	75	73	79	7.38	+ 0.9	18	4,374	se.	28	s.	18	7	6	18	6.5	.....	.....
West Gulf States.							**83.3**	**+ 1.3**									**70**	**0.95**	**− 2.3**									**3.3**		
Shreveport	249	77	84	29.75	30.01	+ .03	83.0	+ 0.9	98	29	93	68	31	73	24	75	72	75	3.73	0.0	7	3,447	se.	24	se.	29	16	14	1	3.6	.....	.....
Bentonville	1,303	11	44	28.66	29.99	+ .02	79.5	+ 1.0	98	28	90	62	1	68	31	.....	.....	.....	0.43	− 3.9	4	3,256	s	18	n.	10	22	8	1	2.7	.....	.....
Fort Smith	457	79	94	29.51	29.98	+ .01	83.8	+ 2.8	101	28	94	67	1	73	28	73	70	69	0.78	− 3.1	5	4,533	e.	48	w.	30	14	13	4	4.2	.....	.....
Little Rock	357	139	147	29.64	30.01	+ .02	82.0	+ 1.4	99	25	91	68	1	73	25	74	71	76	1.93	− 2.1	9	5,129	s.	34	ne.	16	13	13	5	4.6	.....	.....
Brownsville	57	4	.....	.....	.....	.....	82.3	.....	96	30	91	71	1	74	25	.....	.....	.....	0.13	.....	3	.....	s.	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi	20	69	77	29.98	29.99	+ .03	82.0	− 0.7	91	30	87	74	16	77	17	76	73	79	0.11	− 1.6	2	9,866	se.	31	se.	3	16	15	0	2.7	.....	.....
Fort Worth	670	106	114	29.25	29.95	− .01	85.8	+ 2.1	109	29	96	71	18	75	29	69	61	49	0.27	− 2.8	4	7,430	s.	27	se.	3	18	9	4	3.8	.....	.....
Galveston	54	106	112	29.97	30.03	+ .05	83.2	+ 0.2	93	27	88	75	13	79	15	76	74	76	0.16	− 3.8	3	7,013	s.	28	ne.	29	19	12	0	2.7	.....	.....
Houston	138	111	121	29.88	30.01	.....	83.6	+ 0.6	100	29	93	72	18	74	26	.....	.....	.....	7.06	.....	12	4,683	s.	34	e.	29	12	15	4	4.4	.....	.....
Palestine	510	64	72	29.47	29.99	+ .02	83.5	+ 2.0	102	29	94	69	16	74	31	74	71	72	0.61	− 2.4	7	4,992	s.	30	e.	29	24	7	0	2.3	.....	.....
San Antonio	701	80	91	29.25	29.96	+ .01	85.1	+ 2.7	104	30	96	70	18	74	30	72	67	63	1.27	− 1.0	4	4,766	se.	30	n.	18	20	11	0	3.0	.....	.....
Taylor	583	55	63	29.40	30.02	+ .06	84.4	+ 1.7	104	30	96	69	5	73	29	.....	.....	.....	0.25	− 2.4	4	6,227	s.	30	ne.	19	24	6	1	2.4	.....	.....
Ohio Valley and Tennessee.							**76.2**	**− 0.6**									**77**	**5.53**	**+ 1.5**									**6.0**		
Chattanooga	702	189	213	29.28	30.08	+ .06	77.2	− 0.6	93	25	86	64	31	69	25	70	68	80	5.81	+ 1.9	15	4,731	w.	36	nw.	31	6	12	13	6.2	.....	.....
Knoxville	996	93	100	29.02	30.06	+ .04	77.2	+ 1.0	92	14	86	61	27	68	24	70	67	76	4.32	+ 0.1	14	3,209	sw.	25	n.	22	4	20	7	5.7	.....	.....
Memphis	399	76	97	29.63	30.05	+ .05	80.8	+ 0.1	94	25	88	69	10	74	21	73	70	74	3.27	− 0.2	7	4,941	sw.	34	nw.	10	14	12	5	4.1	.....	.....
Nashville	546	108	191	29.49	30.06	+ .05	77.8	− 1.6	93	14	86	64	28	70	25	71	69	80	5.37	+ 1.0	16	4,944	se.	53	se.	15	5	14	12	6.2	.....	.....
Lexington	989	75	102	29.00	30.05	+ .04	75.3	− 1.3	93	15	84	60	20	67	27	.....	.....	.....	4.70	+ 0.3	11	5,824	sw.	27	sw.	21	5	11	15	6.1	.....	.....
Louisville	525	111	132	29.48	30.05	+ .05	78.8	+ 0.2	95	14	88	62	19	70	26	70	67	72	4.68	+ 0.9	14	4,912	sw.	36	w.	8	8	14	9	5.8	.....	.....
Evansville	431	72	82	29.57	30.03	+ .03	78.4	− 0.9	94	15	86	64	27	70	22	71	68	76	5.30	+ 1.5	16	4,562	s.	32	w.	28	6	24	1	5.0	.....	.....

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1912*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.									Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
***Ohio Valley and Tennessee*—Continued.**							**76.2**	**— 0.6**										**77**	**5.53**	**+ 1.5**											
Indianapolis	822	154	164	29.16	30.03	+ .04	74.4	— 1.8	93	24	83	58	19	66	25	68	66	78	6.75	+ 2.6	15	6,162	sw.	41	s.	13	0	22	9	6.6	.....	.....
Cincinnati	628	152	160	29.38	30.04	+ .04	77.4	— 0.3	96	24	86	59	19	69	23	70	67	73	5.11	+ 1.6	12	4,398	se.	29	w.	10	4	20	7	6.0	.....	.....
Columbus	824	173	222	29.17	30.03	+ .03	74.9	— 0.4	95	15	84	56	19	65	26	68	65	76	3.50	— 0.2	13	6,563	s.	48	n.	24	3	14	14	6.5	.....	.....
Dayton	899	181	216	29.08	30.01	.....	74.9	— 1.3	94	24	84	56	19	66	25	68	65	76	3.35	+ 0.1	10	6,544	sw.	40	nw.	15	0	14	17	7.9	.....	.....
Pittsburgh	842	353	410	29.14	30.02	+ .02	73.2	— 1.4	91	15	82	55	19	65	22	65	61	70	6.61	+ 2.2	10	6,360	sw.	44	w.	10	7	16	8	5.4	.....	.....
Parkersburg	638	77	84	29.41	30.06	+ .05	75.7	+ 0.1	94	15	85	59	30	66	25	70	68	85	8.07	+ 3.4	11	3,414	s.	28	nw.	24	6	15	10	5.9	.....	.....
Elkins	1,940	41	50	28.06	30.06	+ .05	70.4	— 0.1	91	14	82	50	28	59	31	64	62	84	10.61	+ 6.0	19	2,061	s.	22	nw.	24	4	17	10	6.3	.....	.....
Lower Lake Region.							**70.8**	**— 0.9**										**72**	**3.53**	**+ 0.2**									**5.0**		
Buffalo	767	178	206	29.20	30.01	+ .04	70.1	— 0.1	91	6	78	50	19	63	26	63	58	68	1.41	— 2.0	6	7,693	sw.	40	nw.	18	9	16	6	4.9	.....	.....
Canton	448	10	71	29.53	30.00	.....	67.8	— 2.7	92	10	80	41	23	56	36	.....	.....	.....	1.82	— 1.4	9	5,671	sw.	36	sw.	13	14	11	6	4.8	.....	.....
Oswego	335	76	91	29.63	30.00	+ .04	68.5	— 1.1	91	15	76	46	1	61	26	62	58	71	2.49	— 0.7	13	5,445	s.	34	ne.	16	13	14	4	4.0	.....	.....
Rochester	523	86	102	29.46	30.02	+ .05	70.8	+ 0.4	94	15	80	47	1	62	29	62	57	67	2.78	— 0.3	13	4,941	sw.	28	nw.	15	11	17	3	4.5	.....	.....
Syracuse	597	97	113	29.38	30.02	+ .05	70.7	— 0.1	93	8	80	46	1	62	28	62	57	65	3.16	— 0.5	14	6,339	s.	37	sw.	3	12	17	2	4.4	.....	.....
Erie	714	92	102	29.26	30.02	+ .04	70.4	— 1.4	92	15	77	53	31	64	28	64	61	73	3.09	— 0.1	12	5,902	s.	40	nw.	15	4	19	8	6.1	.....	.....
Cleveland	762	190	201	29.22	30.03	+ .04	71.0	— 1.5	88	7	77	56	31	65	20	65	62	75	8.13	+ 4.6	12	7,781	n.	49	sw.	5	4	12	15	6.3	.....	.....
Sandusky	629	62	70	29.35	30.02	+ .03	72.6	— 1.0	89	9	79	59	20	66	19	.....	.....	.....	4.93	+ 1.1	14	4,904	sw.	28	n.	18	7	15	9	5.8	.....	.....
Toledo	628	208	246	29.35	30.03	+ .04	72.4	— 1.3	91	15	81	52	19	64	29	66	63	76	3.60	+ 0.4	11	8,436	sw.	44	n.	15	9	15	7	5.1	.....	.....
Fort Wayne	856	113	124	29.11	30.02	.....	73.2	— 0.3	90	24	82	53	19	64	23	67	65	80	3.38	.....	.....	5,374	sw.	25	s.	8	10	17	4	4.4	.....	.....
Detroit	730	218	256	29.25	30.03	+ .05	71.2	— 0.8	87	14	80	50	19	63	27	65	62	75	3.87	+ 0.4	11	7,689	s.	49	nw.	10	13	15	3	4.4	.....	.....
Upper Lake Region.							**67.2**	**— 0.9**										**77**	**4.07**	**+ 1.0**									**5.6**		
Alpena	609	13	92	29.36	30.02	+ .05	64.9	— 0.9	86	9	73	43	19	57	26	61	59	80	2.57	— 0.5	9	7,378	se.	38	nw.	9	8	17	6	4.8	.....	.....
Escanaba	612	48	82	29.34	30.00	+ .03	64.0	— 2.5	88	9	72	41	19	56	26	60	56	76	1.25	— 2.1	12	6,297	s.	38	s.	13	8	10	13	6.1	.....	.....
Grand Haven	632	54	92	29.33	30.00	+ .02	67.8	— 1.9	89	6	76	45	16	60	32	63	60	79	4.49	+ 1.9	9	6,801	s.	32	s.	13	9	17	5	4.6	.....	.....
Grand Rapids	675	70	87	29.25	30.01	+ .03	70.8	— 1.8	91	5	80	47	16	61	31	64	61	73	7.47	+ 4.8	13	3,636	nw.	31	w.	13	5	14	12	6.3	.....	.....
Lansing	863	11	62	29.09	30.01	.....	69.6	— 1.5	90	9	80	43	19	59	35	64	61	79	5.06	+ 1.8	14	3,475	sw.	20	s.	13	4	13	14	6.3	.....	.....
Houghton	684	62	72	29.26	29.98	+ .02	65.2	— 0.1	90	8	74	47	19	56	29	.....	.....	.....	5.16	+ 2.1	14	5,418	w.	28	w.	8	9	10	12	6.0	.....	.....
Marquette	734	77	116	29.21	30.01	+ .05	65.4	+ 0.5	98	6	75	45	16	56	38	60	58	81	3.42	+ 0.3	10	7,117	nw.	36	sw.	8	4	20	7	6.2	.....	.....
Port Huron	638	78	120	29.33	30.02	+ .04	68.8	— 0.2	90	15	77	48	19	60	30	63	61	78	4.17	+ 1.4	12	6,694	sw.	38	n.	15	12	11	8	4.7	.....	.....
Sault Ste. Marie	614	11	61	29.33	30.02	+ .05	62.6	+ 0.7	93	6	73	40	16	52	35	58	54	76	0.80	— 2.0	10	5,730	e.	38	nw.	15	6	15	10	5.7	.....	.....
Chicago	823	140	310	29.15	30.02	+ .04	72.9	+ 0.5	92	5	80	57	16	66	24	66	62	73	3.86	+ 0.2	9	8,049	sw.	33	sw.	13	8	15	8	5.2	.....	.....
Milwaukee	681	119	133	29.28	30.01	+ .04	69.2	— 0.5	92	5	77	53	17	61	27	62	59	73	4.92	+ 1.9	11	6,048	se.	34	nw.	4	10	15	6	5.0	.....	.....
Green Bay	617	49	86	29.33	29.98	+ .01	69.4	— 0.1	94	6	78	48	19	60	27	63	60	75	7.46	+ 4.0	17	6,975	s.	46	w.	4	2	18	11	6.9	.....	.....
Duluth	1,133	11	47	28.77	29.98	+ .03	62.6	— 3.4	88	27	72	43	15	54	35	58	56	81	2.24	— 1.4	13	7,983	ne.	42	w.	14	13	13	5	4.9	.....	.....
North Dakota.							**66.9**	**— 2.2**										**75**	**4.29**	**+ 1.4**									**4.3**		
Moorhead	940	8	57	28.98	29.98	+ .04	68.6	— 0.1	90	7	80	41	15	57	32	62	59	75	3.26	— 0.5	9	5,044	s.	30	nw.	9	22	7	2	2.6	.....	.....
Bismarck	1,674	4	57	28.21	29.97	+ .04	69.0	— 1.2	92	22	81	39	15	57	37	62	58	74	3.18	+ 1.0	11	6,282	nw.	41	sw.	22	14	14	3	4.2	.....	.....
Devils Lake	1,482	11	44	28.39	29.94	+ .01	65.3	— 2.8	88	1	76	41	15	55	33	60	57	81	7.44	+ 3.7	14	6,677	nw.	32	nw.	27	9	15	7	5.2	.....	.....
Williston	1,896	40	47	27.98	29.93	+ .01	64.8	— 4.6	89	13	76	42	18	53	36	58	53	71	3.29	+ 1.3	13	4,990	n.	40	nw.	23	9	13	9	5.1	.....	.....
Upper Mississippi Valley.							**75.0**	**— 0.4**										**72**	**4.17**	**+ 0.5**									**4.6**		
Minneapolis	918	102	208	.....	.....	.....	71.2	.....	90	7	80	49	15	63	29	.....	.....	.....	7.08	+ 3.3	10	7,834	s.	80	nw.	12	15	6	10	4.5	.....	.....
St. Paul	940	203	212	29.08	29.98	+ .03	70.5	— 1.6	89	5	79	49	15	62	28	63	58	70	4.02	+ 0.6	10	7,802	se.	62	n.	12	14	11	6	4.1	.....	.....
La Crosse	714	11	48	29.23	29.98	+ .02	71.4	— 1.2	94	23	82	48	19	61	33	.....	.....	.....	6.41	+ 2.3	13	3,261	se.	32	sw.	9	9	13	9	5.0	.....	.....
Madison	974	70	78	28.98	30.00	+ .03	70.8	— 1.6	92	6	80	51	16	62	28	64	60	72	5.63	+ 1.6	12	5,819	s.	33	nw.	4	10	16	5	5.0	.....	.....
Charles City	1,015	10	49	28.93	29.99	+ .03	72.0	— 1.5	96	9	83	47	19	61	35	65	62	73	3.82	+ 0.2	11	4,622	n.	35	nw.	9	16	10	5	4.1	.....	.....
Davenport	606	71	79	29.34	29.99	+ .02	76.0	+ 0.6	95	5	86	55	16	66	31	67	62	68	2.79	— 0.8	12	4,934	sw.	31	se.	7	12	16	3	4.2	.....	.....
Des Moines	861	84	101	29.07	29.95	— .01	76.2	+ 0.7	99	14	86	56	19	66	31	67	62	65	3.07	— 0.8	10	5,679	s.	34	sw.	23	14	13	4	4.0	.....	.....
Dubuque	698	100	115	29.27	30.00	+ .03	73.2	— 1.5	94	9	83	52	19	63	33	65	61	69	4.81	+ 0.5	9	4,316	s.	22	nw.	6	11	12	8	5.4	.....	.....
Keokuk	614	64	78	29.34	30.00	+ .02	77.2	+ 0.2	96	23	87	57	19	67	29	69	66	72	4.45	+ 0.4	7	4,668	s.	28	n.	10	12	17	2	3.9	.....	.....
Cairo	350	87	93	29.63	30.00	.00	79.4	+ 0.8	93	24	87	66	27	72	23	74	72	81	1.90	— 1.6	8	5,151	s.	39	ne.	3	8	11	12	5.6	.....	.....
La Salle	536	56	64	29.46	30.02	+ .03	74.4	— 0.9	96	5	86	51	19	63	34	.....	.....	.....	2.40	— 0.9	9	4,880	sw.	28	nw.	10	14	9	8	4.7	.....	.....
Peoria	609	11	45	29.36	30.03	+ .05	74.8	— 0.6	96	9	86	54	16	64	29	68	65	75	5.04	+ 2.1	11	4,107	s.	22	se.	10	7	21	3	5.3	.....	.....
Springfield, Ill	644	10	91	29.34	30.01	+ .03	77.2	+ 0.7	97	24	87	57	19	67	30	69	66	73	4.47	+ 1.6	7	5,382	s.	34	nw.	10	9	17	5	5.0	.....	.....
Hannibal	534	74	109	29.43	29.99	+ .01	77.6	+ 0.2	96	24	87	59	31	68	29	.....	.....	.....	1.36	— 2.4	6	5,959	sw.	26	sw.	28	15	12	4	3.8	.....	.....
St. Louis	567	208	317	29.40	30.00	+ .01	78.8	— 0.3	96	24	87	62	16	70	26	71	69	75	5.29	+ 1.9	9	6,620	s.	47	w.	10	12	9	10	4.7	.....	.....
Missouri Valley.							**76.6**	**+1.0**										**64**	**2.66**	**—1.2**									**4.0**		
Columbia, Mo	784	11	84	29.18	29.99	+.01	78.7	+1.3	96	24	88	60	19	69	28	.....	.....	.....	1.88	—1.8	8	4,745	s.	20	w.	28	12	12	7	4.9	.....	.....
Kansas City	963	161	181	28.96	29.95	—.02	79.8	+2.2	96	24	89	61	16	71	23	69	64	63	3.30	—1.5	12	7,989	s.	49	w.	5	14	15	2	4.0	.....	.....
St. Joseph	967	11	49	28.95	29.95	.....	80.0	.....	98	23	91	59	31	69	31	68	63	62	1.66	.....	8	5,558	s.	38	w.	12	12	16	3	3.6	.....	.....
Springfield, Mo	1,324	98	104	28.64	30.01	+.03	78.1	+1.7	96	24	87	63	1	69	25	70	67	74	1.40	—3.4	9	6,199	s.	35	n.	10	20	9	2	3.1	.....	.....
Iola	984	11	50	28.96	29.97	.00	80.2	+2.1	100	24	91	62	30	70	33	.....	.....	.....	1.49	—2.4	8	5,050	s.	24	w.	5	14	12	5	3.8	.....	.....
Topeka	983	85	101	.....	.....	.....	79.9	+2.3	98	12	90	62	19	70	29	.....	.....	.....	2.31	—2.5	10	7,146	s.	37	w.	2	14	15	2	3.2	.....	.....
Lincoln	1,189	11	84	28.70	29.93	—.02	79.0	+2.6	104	9	91	50	16	67	38	66	61	61	2.18	—1.6	10	8,003	s.	54	nw.	9	11	15	5	4.7	.....	.....
Omaha	1,105	115	121	28.80	29.95	.00	78.3	+1.8	102	14	89	56	16	68	34	67	61	60	1.78	—2.6	12	5,910	s.	32	n.	14	12	15	4	3.9	.....	.....
Valentine	2,598	47	54	27.30	29.96	+.03	72.3	—0.9	95	29	84	40	15	60	39	62	57	64	2.07	—1.3	8	6,891	ne.	44	w.	3	18	11	2	3.5	.....	.....
Sioux City	1,135	94	164	28.77	29.95	.00	74.8	+0.6	100	23	85	52	15	64	39	65	60	64	3.68	+0.1	12	8,109	se.	40	nw.	14	15	12	4	3.9	.....	.....
Pierre	1,572	70	75	28.32	29.95	+.02	74.6	—0.6	99	22	86	46	15	63	34	63	56	58	3.22	+0.9	9	7,126	se.	59	w.	8	10	16	5	4.9	.....	.....
Huron	1,306	56	67	28.60	29.97	+.03	71.4	—0.1	95	7	83	41	15	60	39	63	59	70	3.71	+0.8	12	7,002	s.	43	nw.	8	13	11	7	4.7	.....	.....
Yankton	1,233	49	57	28.66	29.95	+.01	74.2	—0.4	99	8	85	46	15	63	36	.....	.....	.....	4.84	+1.3	11	4,963	se.	36	n.	7	13	12	6	4.4	.....	.....
Northern Slope.							**65.4**	**—2.7**										**64**	**2.54**	**+0.9**									**5.2**		
Havre	2,505	11	44	27.36	29.96	+.05	63.6	—4.5	90	30	76	40	18	51	40	56	52	70	0.97	—1.0	11	4,785	nw.	44	n.	15	14	13	4	4.3	.....	.....
Miles City	2,371	26	48	27.47	29.97	+.05	69.6	—3.3	98	30	82	44	15	58	40	61	57	68	3.55	+2.2	11	3,602	ne.	24	se.	13	15	13	3	4.0	.....	.....
Helena	4,221	87	114	25.84	29.98	+.05	63.2	—3.4	90	30	75	40	14	52	42	52	45	60	0.95	—0.1	10	5,986	sw.	32	s.	13	9	7	15	6.3	.....	.....
Kalispell	2,962	11	34	26.95	29.96	+.03	60.5	—3.8	90	30	72	40	14	49	40	52	48	69	1.56	+0.7	12	3,056	w.	24	w.	5	9	16	6	5.1	.....	.....
Rapid City	3,234	46	50	26.63	29.97	+.04	69.1	—1.1	92	13	81	42	15	57	36	60	54	62	6.64	+4.1	16	4,736	w.	33	w.	3	12	11	8	4.9	.....	.....
Cheyenne	6,088	56	64	24.11	29.96	+.04	65.0	—2.4	86	21	77	46	4	53	36	54	48	63	1.82	—0.2	15	6,166	s.	40	w.	13	5	18	8	6.1	.....	.....
Lander	5,372	60	68	24.70	29.93	+.01	66.6	—1.4	92	28	82	43	2	51	41	52	42	50	0.96	+0.1	8	4,100	sw.	37	sw.	21	8	15	8	5.2	.....	.....
Sheridan	3,790	9	47	26.14	29.98	.....	65.2	.....	93	25	78	43	15	52	41	56	51	67	4.42	.....	11	3,852	nw.	40	nw.	11	6	12	13	6.5	.....	.....
Yellowstone Park	6,200	11	48	23.96	29.98	+.06	56.8	—4.7	83	28	70	33	9	43	39	48	43	68	2.37	+1.2	15	4,787	sw.	32	sw.	11	10	11	10	5.2	.....	.....
North Platte	2,821	11	51	27.10	29.97	+.04	74.0	+0.1	99	8	86	51	18	62	36	64	59	65	4.01	+1.3	10	5,341	s.	28	w.	3	14	14	3	4.2	.....	.....

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1912*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
Middle Slope.							**76.7**	**+0.8**											**61**	**1.87**	**−1.1**									**4.2**		
Denver	5,291	129	136	24.81	29.98	+.07	69.2	−2.6	92	8	82	46	5	57	34		57	51	63	2.90	+1.3	13	5,402	sw.	55	ne.	14	3	23	5	5.6	.....	.....
Pueblo	4,685	80	86	25.34	29.92	+.01	72.8	−1.4	96	8	87	48	5	59	39		58	49	54	2.50	+0.5	9	4,919	se.	38	e.	18	11	17	3	4.1	.....	.....
Concordia	1,398	42	50	28.51	29.94	−.01	80.4	+2.3	103	9	92	60	15	68	37		68	62	60	1.33	−2.3	11	5,720	s.	36	sw.	2	10	17	4	4.9	.....	.....
Dodge City	2,509	11	51	27.40	29.93	.00	78.6	+0.9	100	12	91	58	16	67	33		66	61	61	0.88	−2.5	7	7,734	s.	46	sw.	2	14	14	3	4.1	.....	.....
Wichita	1,364	139	158	28.53	29.92	−.04	81.6	+2.6	101	24	92	64	6	71	29		70	66	63	1.28	−2.3	6	9,638	s.	49	nw.	2	15	15	1	3.8	.....	.....
Oklahoma	1,214	10	47	28.71	29.95	−.01	82.5	+2.7	102	28	93	63	1	72	28		70	66	63	2.32	−1.3	4	9,355	s.	48	nw.	5	24	7	0	2.4	.....	.....
Southern Slope.							**82.4**	**+1.9**											**54**	**1.06**	**−1.8**									**3.3**		
Abilene	1,738	10	52	28.18	29.93	.00	85.4	+3.2	106	30	96	69	6	74	27		68	59	48	0.30	−2.1	2	7,786	s.	32	sw.	4	17	9	5	3.6	.....	.....
Amarillo	3,676	10	49	26.31	29.95	+.03	79.2	+3.1	99	30	92	60	16	66	33		64	58	57	1.88	−1.3	9	8,585	sw.	38	sw.	2	22	9	0	3.3	.....	.....
Del Rio	944	8	57	28.97	29.93	+.03	86.1	+1.4	106	31	97	69	26	75	31		.....	.....	.....	0.10	−2.1	2	6,796	se.	28	se.	4	18	13	0	3.0	.....	.....
Roswell	3,578	9	57	26.38	29.90	+.02	78.9	0.0	99	9	94	56	6	94	38		63	56	56	1.94	−1.5	5	3,788	s.	34	s.	2	19	11	1	3.4	.....	.....
Southern Plateau.							**76.4**	**−2.6**											**44**	**1.62**	**+0.3**									**3.4**		
El Paso	3,762	110	133	26.18	29.83	−.01	81.0	+0.5	100	10	93	61	6	69	35		62	50	42	1.11	−1.0	11	7,202	se.	50	ne.	15	12	19	0	3.6	.....	.....
Santa Fe	7,013	8	56	23.38	29.88	.00	68.2	−0.5	87	10	79	50	5	57	30		54	46	51	1.49	−1.2	13	5,542	se.	31	s.	3	8	21	2	4.4	.....	.....
Flagstaff	6,907	8	57	.....	.....	.....	61.0	−4.0	85	11	74	32	5	48	43		.....	.....	.....	4.96	+3.2	18	.....	w.	.....	.....	.....	5	14	12	.....	.....	.....
Phoenix	1,108	50	56	28.70	29.82	+.04	85.4	−5.0	108	10	98	63	5	73	37		68	57	44	1.29	+0.2	9	3,434	e.	30	e.	20	12	12	7	4.4	.....	.....
Yuma	141	9	58	29.66	29.80	+.04	88.8	−2.1	110	11	103	61	4	75	40		72	64	51	0.18	+0.1	2	4,158	sw.	31	e.	17	28	3	0	1.0	.....	.....
Independence	3,910	11	42	25.97	29.88	+.05	74.1	−4.4	98	16	89	52	4	59	39		54	37	34	0.68	+0.6	1	4,648	s.	24	s.	16	15	13	3	3.5	.....	.....
Middle Plateau.							**69.6**	**−2.5**											**44**	**1.19**	**+0.5**									**4.5**		
Reno	4,532	56	63	25.49	29.91	+.04	67.8	+0.3	97	16	84	35	1	52	42		51	39	44	0.58	+0.4	4	5,398	w.	34	w.	21	20	8	3	3.0	.....	.....
Tonapah	6,090	12	20	24.10	29.89	.....	69.2	.....	91	16	80	41	3	58	30		51	35	34	1.34	+1.0	5	6,042	w.	34	nw.	3	14	10	7	4.2	.....	.....
Winnemucca	4,344	18	56	25.62	29.93	+.03	69.0	−2.6	97	28	86	37	4	52	50		52	39	41	0.52	+0.4	4	4,088	sw.	42	s.	13	19	4	8	3.5	.....	.....
Modena	5,479	10	43	24.66	29.90	+.04	67.0	−2.7	91	16	81	42	5	53	40		51	38	44	1.28	0.0	4	8,907	w.	48	sw.	11	7	10	14	5.9	.....	.....
Salt Lake City	4,360	147	189	25.60	29.88	−.02	73.6	−2.6	94	17	85	53	5	63	31		57	45	41	1.51	+1.0	7	5,152	se.	44	n.	19	12	11	8	5.0	.....	.....
Durango	6,546	18	56	23.76	29.93	+.04	65.6	−3.1	88	11	80	36	5	51	43		52	44	56	2.29	+0.7	14	3,917	nw.	34	se.	13	8	19	4	5.0	.....	.....
Grand Junction	4,602	43	51	25.40	29.92	+.03	74.7	−4.5	95	17	88	49	5	62	38		57	45	44	0.78	+0.3	9	4,286	se.	28	sw.	11	10	14	7	4.9	.....	.....
Northern Plateau.							**68.1**	**−2.8**											**49**	**1.11**	**+0.6**									**4.5**		
Baker	3,466	48	53	26.48	30.02	+.07	62.0	−3.0	89	16	76	38	1	48	40		52	44	57	1.65	+1.2	7	4,179	nw.	25	w.	22	16	9	6	3.4	.....	.....
Boise	2,739	78	86	27.14	29.94	+.01	68.8	−4.0	97	17	83	40	3	55	36		54	42	45	1.27	+1.1	2	3,766	nw.	31	e.	29	11	12	8	4.7	.....	.....
Lewiston	757	10	51	29.16	29.96	+.01	71.4	−2.2	101	29	86	48	2	57	43		.....	.....	.....	0.24	−0.2	4	3,588	e.	40	w.	13	14	6	11	5.2	.....	.....
Pocatello	4,477	46	54	25.48	29.92	.00	67.4	−3.8	93	28	81	42	9	54	39		53	44	50	1.63	+1.0	7	5,512	se.	33	s.	20	14	9	8	4.5	.....	.....
Spokane	1,929	101	110	27.95	29.97	+.01	66.6	−2.2	94	30	79	43	2	54	38		54	45	54	1.30	+0.6	10	4,163	sw.	35	sw.	20	9	14	8	5.3	.....	.....
Walla Walla	1,045	107	115	28.91	29.96	−.01	72.6	−1.5	100	29	84	49	2	61	39		57	44	40	0.59	+0.2	4	5,193	sw.	52	sw.	20	17	8	6	3.8	.....	.....
North Pacific Coast Region.							**61.3**	**+0.1**											**77**	**0.97**	**+0.2**									**5.5**		
North Head	211	11	56	29.86	30.08	.00	56.8	−0.9	75	17	60	51	12	54	20		55	54	90	0.94	+0.4	10	11,837	nw.	42	se.	24	4	8	19	7.2	.....	.....
Port Crescent	259	8	53	29.81	30.09	+.03	55.8	−0.5	84	17	64	40	8	48	33		.....	.....	.....	1.35	+0.7	8	3,498	nw.	13	se.	17	7	14	10	5.8	.....	.....
Seattle	205	215	250	29.94	30.06	+.02	63.4	−0.1	87	18	72	50	7	55	25		57	53	73	1.15	+0.5	11	5,194	n.	31	sw.	24	10	9	12	5.3	.....	.....
Tacoma	213	113	120	29.84	30.06	.00	63.2	−0.2	92	18	72	47	8	54	29		56	52	72	1.21	+0.6	6	3,885	n.	20	sw.	5	13	5	13	5.3	.....	.....
Tatoosh Island	109	7	57	29.96	30.06	+.01	55.6	+0.5	82	17	60	47	19	51	29		53	52	92	1.48	−0.3	12	7,873	s.	38	ne.	17	5	9	17	6.8	.....	.....
Portland, Oreg.	153	68	106	29.87	30.02	−.03	67.4	+1.1	96	17	77	53	3	58	33		60	54	68	0.48	−0.1	5	3,947	nw.	17	nw.	13	15	4	12	4.9	.....	.....
Roseburg	510	9	57	29.48	30.02	−.01	67.2	+1.1	100	16	80	47	1	54	43		58	52	66	0.20	−0.1	2	2,352	n.	15	n.	13	13	15	3	3.4	.....	.....
Middle Pacific Coast Region.							**63.7**	**−1.8**											**63**	**0.02**	**0.0**									**3.9**		
Eureka	80	73	89	29.99	30.06	+.01	55.2	−0.1	66	20	59	46	11	51	15		53	51	89	0.05	−0.1	5	4,471	n.	22	nw.	6	5	10	16	7.0	.....	.....
Mount Tamalpais	2,375	11	18	27.54	29.99	+.04	64.0	−6.5	86	15	71	45	13	57	21		52	42	51	0.00	0.0	0	10,974	nw.	62	nw.	22	22	8	1	2.3	.....	.....
Point Reyes Light	490	7	18	29.45	29.96	.....	54.0	+0.3	65	24	58	46	5	50	13		.....	.....	.....	0.04	.....	2	16,446	nw.	62	nw.	2	6	9	16	7.2	.....	.....
Red Bluff	332	50	56	29.54	29.88	−.01	78.5	−3.6	109	16	93	56	24	64	38		59	44	35	0.04	0.0	1	3,560	se.	23	nw.	3	26	5	0	1.6	.....	.....
Sacramento	69	106	117	29.84	29.91	+.03	71.6	−0.9	103	15	87	53	6	56	40		59	52	58	T.	0.0	0	7,019	s.	23	s.	30	30	1	0	1.3	.....	.....
San Francisco	155	200	204	29.82	29.99	+.04	57.9	+0.6	71	1	64	49	11	52	19		53	51	83	T.	0.0	0	8,631	w.	32	w.	7	12	14	5	4.4	.....	.....
San Jose	141	12	110	29.83	29.98	.....	64.7	−2.2	89	15	78	46	1	52	36		.....	.....	.....	T.	0.0	0	4,973	nw.	24	se.	8	24	7	0	2.5	.....	.....
Southeast Farallon	30	9	17	29.99	30.02	.....	54.8	.....	63	30	57	48	9	52	9		.....	.....	.....	0.01	0.0	1	10,135	nw.	46	nw.	1	11	9	11	5.2	.....	.....
South Pacific Coast Region.							**69.4**	**−0.4**											**65**	**0.04**	**0.0**									**3.4**		
Fresno	330	62	70	29.54	29.88	+.05	79.8	−2.2	109	16	96	55	3	63	40		59	42	33	T.	0.0	0	4,622	nw.	17	w.	31	23	7	1	1.6	.....	.....
Los Angeles	338	159	191	29.59	29.95	+.05	68.8	+1.4	92	16	79	55	13	59	27		60	56	71	T.	0.0	0	3,712	sw.	15	s.	3	17	10	4	3.6	.....	.....
San Diego	87	94	102	29.86	29.95	+.03	66.9	0.0	85	15	72	58	6	62	19		62	60	83	0.14	+0.1	2	4,324	nw.	21	nw.	15	18	12	1	3.8	.....	.....
San Luis Obispo	201	47	54	29.78	30.00	+.05	62.3	−0.9	87	15	74	45	1	51	35		54	50	72	T.	0.0	0	3,229	nw.	20	nw.	31	13	12	6	4.5	.....	.....
West Indies.																																	
San Juan	82	48	90	29.94	30.03	+.04	81.0	.....	91	30	86	73	6	76	16		.....	.....	.....	2.84	−3.6	13	8,785	e.	31	ne.	16	13	15	3	3.9	.....	.....
Panama.																																	
Ancon	92	6	69	29.73	29.82	.....	80.6	.....	94	27	88	70	14	73	19		75	74	91	10.25	+2.1	20	5,176	nw.	24	se.	14	1	10	20	7.8	.....	.....
Culebra	404	5	62	29.42	29.83	.....	79.8	.....	91	12	86	70	17	73	18		74	74	92	10.12	+0.6	22	4,962	nw.	36	ne.	30	0	13	18	7.7	.....	.....
Colon	10	5	71	29.84	29.85	.....	80.6	.....	89	27	84	71	1	77	14		77	76	88	13.13	−3.2	26	7,574	n.	25	ne.	28	3	12	16	7.1	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1912, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.												
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	18			0.26														0.08			
Albany, N. Y.	9	5.02 p. m.	5.50 p. m.	0.73	5.17 p. m.	5.32 p. m.	0.01	0.22	0.45	0.56											
Do.	11	8.30 p. m.	8.50 p. m.	0.54	8.34 p. m.	8.44 p. m.	0.01	0.31	0.50												
Alpena, Mich.	7	1.38 p. m.	5.15 p. m.	0.73	1.53 p. m.	2.10 p. m.	0.06	0.05	0.15	0.43	0.49										
Amarillo, Tex.	17	1.50 p. m.	2.35 p. m.	1.03	1.53 p. m.	2.22 p. m.	0.02	0.14	0.41	0.58	0.78	0.92	0.99								
Anniston, Ala.	1	11.10 a. m.	4.00 p. m.	0.97	11.11 a. m.	11.33 a. m.	0.01	0.31	0.51	0.62	0.81	0.86									
Do.	11	5.17 p. m.	6.10 p. m.	0.64	5.30 p. m.	5.48 p. m.	0.05	0.17	0.27	0.50	0.57										
Do.	31	1.10 p. m.	2.25 p. m.	0.77	1.28 p. m.	1.41 p. m.	0.08	0.25	0.50	0.60											
Asheville, N. C.	9	1.15 p. m.	3.40 p. m.	1.39	1.21 p. m.	2.03 p. m.	0.04	0.11	0.39	0.67	0.78	0.93	1.03	1.09	1.13	1.17					
Atlanta, Ga.	5	1.02 p. m.	4.45 p. m.	0.65	1.02 p. m.	1.21 p. m.	0.00	0.10	0.23	0.43	0.53										
Atlantic City, N. J.	11	7.42 p. m.	8.25 p. m.	0.83	8.05 p. m.	8.23 p. m.	0.12	0.40	0.62	0.67	0.71										
Do.	11–12	9.10 p. m.	D. N. a. m.	1.72	9.38 p. m.	10.20 p. m.	0.03	0.08	0.27	0.64	0.70	0.76	0.79	0.89	1.07	1.12					
Augusta, Ga.	1	5.10 p. m.	6.30 p. m.	0.68	5.23 p. m.	5.47 p. m.	0.09	0.07	0.11	0.25	0.43	0.54									
Do.	7	2.10 p. m.	2.50 p. m.	0.60	2.12 p. m.	2.25 p. m.	0.01	0.18	0.42	0.54											
Do.	16	5.25 p. m.	6.35 p. m.	1.07	5.28 p. m.	6.09 p. m.	0.01	0.23	0.61	0.62	0.62	0.62	0.70	0.80	1.04	1.05					
Baker, Oreg.	30			0.80														0.48			
Baltimore, Md.	18	11.42 a. m.	12.10 p. m.	0.57	11.42 a. m.	12.01 p. m.	0.00	0.15	0.41	0.52	0.57										
Do.	21	4.40 p. m.	6.25 p. m.	0.75	4.48 p. m.	5.11 p. m.	0.01	0.36	0.42	0.51	0.59	0.64									
Do.	29	6.55 p. m.	7.33 p. m.	0.93	7.07 p. m.	7.32 p. m.	0.01	0.13	0.28	0.57	0.82	0.92									
Bentonville, Ark.	6			0.36														0.35			
Binghamton, N. Y.	17			0.70														0.45			
Birmingham, Ala.	9	6.04 p. m.	9.45 p. m.	1.33	6.15 p. m.	7.05 p. m.	0.01	0.25	0.37	0.43	0.48	0.50	0.53	0.62	0.81	0.95	1.10				
Do.	31	12.41 p. m.	2.30 p. m.	0.81	1.50 p. m.	2.07 p. m.	0.03	0.19	0.51	0.71	0.75										
Bismarck, N. Dak.	20	7.15 p. m.	9.15 p. m.	0.88	8.46 p. m.	9.04 p. m.	0.05	0.10	0.39	0.75	0.80										
Do.	22	6.07 p. m.	6.30 p. m.	0.67	6.11 p. m.	6.25 p. m.	0.01	0.28	0.53	0.64											
Block Island, R. I.	14	4.12 p. m.	6.55 p. m.	3.00	4.50 p. m.	6.09 p. m.	0.14	0.15	0.53	0.69	0.89	1.03	1.21	1.48	1.67	1.80	1.85	2.11	2.82		
Do.	21	12.30 p. m.	7.32 p. m.	2.31	5.00 p. m.	5.35 p. m.	0.36	0.20	0.25	0.43	0.52	0.58	0.61	0.74							
					6.50 p. m.	7.12 p. m.	1.48	0.17	0.41	0.54	0.76	0.82									
Boise, Idaho.	30–31	8.52 p. m.	1.20 a. m.	1.27	9.31 p. m.	10.38 p. m.	0.01	0.05	0.14	0.17	0.26	0.33	0.41	0.51	0.58	0.60	0.62	0.95	1.09		
Boston, Mass.	18	3.15 p. m.	7.00 p. m.	1.70	4.18 p. m.	5.22 p. m.	0.08	0.11	0.21	0.37	0.48	0.59	0.77	0.95	1.11	1.30	1.36	1.52	1.59		
Buffalo, N. Y.	15	4.00 p. m.	4.50 p. m.	0.34	4.28 p. m.	4.38 p. m.	T.	0.27	0.34												
Burlington, Vt.	10	7.18 p. m.	9.30 p. m.	1.20	7.39 p. m.	8.23 p. m.	0.04	0.31	0.46	0.59	0.70	0.82	0.88	0.92	0.95	1.04					
Cairo, Ill.	21	7.49 p. m.	D. N. p. m.	0.53	7.57 p. m.	8.14 p. m.	0.01	0.15	0.31	0.45	0.51										
Canton, N. Y.	15–16			0.24														0.18			
Charles City, Iowa.	9	7.29 p. m.	D. N. p. m.	0.82	8.47 p. m.	9.01 p. m.	0.01	0.14	0.48	0.56											
Charleston, S. C.	7	8.30 a. m.	11.35 a. m.	1.27	8.30 a. m.	8.45 a. m.	0.00	0.29	0.65	0.76											
Charlotte, N. C.	16	2.24 p. m.	5.15 p. m.	0.53	2.51 p. m.	3.06 p. m.	0.01	0.16	0.32	0.42											
Chattanooga, Tenn.	11	11.24 a. m.	1.40 p. m.	1.02	11.47 a. m.	12.12 p. m.	0.02	0.24	0.55	0.68	0.79	0.90									
Do.	31	3.50 p. m.	5.16 p. m.	0.89	4.02 p. m.	4.36 p. m.	0.01	0.10	0.32	0.49	0.65	0.66	0.71	0.83							
Cheyenne, Wyo.	12			0.27														0.24			
Chicago, Ill.	7	1.14 p. m.	5.44 p. m.	1.82	1.46 p. m.	2.38 p. m.	0.04	0.07	0.22	0.32	0.42	0.54	0.68	0.80	0.94	1.04	1.11	1.16			
Cincinnati, Ohio.	1	12.13 p. m.	1.00 p. m.	0.55	12.18 p. m.	12.36 p. m.	0.02	0.12	0.25	0.45	0.53										
Do.	10	12.21 p. m.	1.55 p. m.	0.61	12.21 p. m.	12.35 p. m.	0.00	0.19	0.57	0.59											
Do.	17	12.11 p. m.	3.25 p. m.	2.53	12.27 p. m.	1.35 p. m.	0.01	0.38	0.74	0.98	1.18	1.37	1.64	1.68	1.84	1.93	2.09	2.14	2.43		
Cleveland, Ohio.	5	5.25 p. m.	11.50 p. m.	1.61	5.31 p. m.	6.15 p. m.	0.01	0.12	0.66	0.79	0.89	0.97	1.08	1.16	1.24	1.29					
Do.	15	2.38 p. m.	7.03 p. m.	0.80	3.23 p. m.	3.40 p. m.	0.05	0.16	0.37	0.56	0.59										
Do.	24	1.02 a. m.	8.55 a. m.	2.54	3.58 a. m.	4.09 a. m.	0.38	0.30	0.49	0.51											
Columbia, Mo.	3	5.55 a. m.	12.30 p. m.	1.20	10.05 a. m.	10.30 a. m.	0.10	0.29	0.53	0.71	0.83	0.88									
Columbia, S. C.	1	7.49 p. m.	9.00 p. m.	0.76	7.54 p. m.	8.14 p. m.	0.01	0.30	0.52	0.61	0.68										
Do.	10	1.05 p. m.	3.45 p. m.	0.81	1.28 p. m.	1.48 p. m.	0.01	0.27	0.39	0.60	0.74										
Do.	16	11.54 a. m.	3.40 p. m.	0.70	11.55 a. m.	12.08 p. m.	0.01	0.17	0.41	0.51											
Columbus, Ohio.	21	10.07 a. m.	10.48 a. m.	0.58	10.22 a. m.	10.33 a. m.	0.03	0.17	0.50	0.54											
Do.	24	4.25 p. m.	5.25 p. m.	0.60	4.31 p. m.	5.05 p. m.	0.01	0.09	0.24	0.27	0.29	0.33	0.34	0.57							
Concord, N. H.	30			0.57														0.46			
Concordia, Kans.	20			0.45														0.45			
Corpus Christi, Tex.	6			0.10														0.10			
Davenport, Iowa.	10			0.94														0.43			
Dayton, Ohio.	1	3.56 p. m.	4.48 p. m.	0.70	3.59 p. m.	4.18 p. m.	0.01	0.26	0.37	0.51	0.66										
Do.	15	10.50 a. m.	11.23 a. m.	0.73	10.58 a. m.	11.18 a. m.	0.01	0.20	0.36	0.58	0.72										
Del Rio, Tex.	19			0.09														0.04			
Denver, Colo.	14	3.25 p. m.	6.30 p. m.	2.00	3.34 p. m.	4.05 p. m.	0.01	0.32	1.19	1.52	1.62	1.67	1.72								
Des Moines, Iowa.	9	8.45 p. m.	D. N.p.m.	0.89	9.13 p. m.	9.38 p. m.	0.02	0.16	0.35	0.54	0.67	0.75									
Detroit, Mich.	23–24	9.42 p. m.	7.04 a. m.	2.43	1.02 a. m.	1.28 a. m.	0.52	0.11	0.17	0.25	0.37	0.48	0.54								
Devils Lake, N. Dak.	2	3.49 p. m.	6.58 p. m.	0.98	4.04 p. m.	4.25 p. m.	0.11	0.09	0.33	0.41	0.49	0.53									
Do.	6	4.55 p. m.	8.00 p. m.	1.59	5.56 p. m.	7.00 p. m.	0.14	0.08	0.20	0.33	0.38	0.45	0.47	0.49	0.56	0.64	0.74	1.18	1.38		
Do.	23	5.28 a. m.	8.32 a. m.	0.89	5.33 a. m.	5.43 a. m.	0.01	0.32	0.60												
Do.	27	1.46 a. m.	D. N.a.m.	0.77	2.00 a. m.	2.31 a. m.	0.04	0.08	0.11	0.17	0.36	0.43	0.50	0.53							
Do.	27	6.15 p. m.	7.28 p. m.	0.66	6.43 p. m.	7.07 p. m.	0.02	0.06	0.25	0.44	0.57	0.62									
Dodge City, Kans.	1			0.21														0.13			
Dubuque, Iowa.	6	3.07 p. m.	4.20 p. m.	1.21	3.07 p. m.	3.36 p. m.	0.00	0.07	0.22	0.44	0.74	1.05	1.16								
Do.	9–10	11.03 p. m.	D. N.a.m.	0.89	11.30 p. m.	12.10 a. m.	0.04	0.06	0.21	0.31	0.38	0.51	0.55	0.62	0.67						
Do.	28	12.45 a. m.	2.15 a. m.	1.40	12.51 a. m.	2.13 a. m.	0.01	0.07	0.24	0.28	0.33	0.49	0.58	0.74	0.83	0.96	0.97	0.97	1.33	1.39	
Duluth, Minn.	9			0.51														0.34			
Durango, Colo.	22	3.39 p. m.	5.42 p. m.	1.21	3.42 p. m.	4.07 p. m.	0.01	0.13	0.22	0.55	0.82	0.92									
Eastport, Me.	19			0.56														0.32			
Elkins, W. Va.	24	4.04 p. m.	9.15 p. m.	3.84	4.08 p. m.	5.50 p. m.	0.01	0.47	0.64	0.80	0.93	1.05	1.13	1.23	1.32	1.42	1.58	1.89	2.47	3.07	3.14
El Paso, Tex.	14			0.24														0.18			
Erie, Pa.	13	8.25 p. m.	10.55 p. m.	1.33	8.38 p. m.	9.40 p. m.	0.01	0.21	0.29	0.38	0.63	0.79	0.87	0.91	1.01	1.04	1.05	1.22	1.31		
Escanaba, Mich.	28			0.23														0.19			
Eureka, Cal.	1			0.01														0.01			
Evansville, Ind.	4	D. N.a.m.	9.05 a. m.	1.65	3.57 a. m.	4.17 a. m.	0.31	0.18	0.32	0.41	0.46										
					6.30 a. m.	7.05 a. m.	0.04	0.05	0.11	0.19	0.30	0.36	0.58								
Do.	8	11.54 a. m.	1.45 p. m.	1.43	11.55 a. m.	12.30 p. m.	T.	(†)	(†)	(†)	(†)	(†)	(†)	1.40							
Flagstaff, Ariz.	25–26			1.47														(*)			
Fort Smith, Ark.	18			0.20														0.20			
Fort Wayne, Ind.	2	4.52 p. m.	6.20 p. m.	0.59	4.52 p. m.	5.22 p. m.	0.00	0.07	0.14	0.21	0.30	0.42	0.57								
Do.	21	D. N.a.m.	D. N.a.m.	1.13	2.35 a. m.	3.27 a. m.	0.10	0.08	0.20	0.25	0.29	0.33	0.40	0.44	0.56	0.70	0.76	0.78			
Fort Worth, Tex.	18			0.10														0.10			
Fresno, Cal.	16			T.														T.			
Galveston, Tex.	20			0.12														0.09			
Grand Haven, Mich.	20			2.27														0.72			
Grand Junction, Colo.	19			0.30														0.20			
Grand Rapids, Mich.	8	2.10 p. m.	3.15 p. m.	0.77	2.24 p. m.	2.58 p. m.	0.02	0.09	0.24	0.47	0.56	0.61	0.65	0.72							
Do.	13	3.30 a. m.	9.50 a. m.	1.40	4.09 a. m.	4.23 a. m.	0.03	0.30	0.74	0.87											
Do.	20–21	7.45 a. m.	4.00 a. m.	2.92	8.51 p. m.	9.28 p. m.	1.70	0.16	0.18	0.18	0.26	0.41	0.54	0.59	0.62						
Green Bay, Wis.	23	8.35 a. m.	4.00 p. m.	1.72	8.39 a. m.	9.07 a. m.	0.02	0.11	0.26	0.43	0.64	0.89	0.95								
Do.	23	5.20 p. m.	7.30 p. m.	1.19	6.17 p. m.	6.32 p. m.	0.53	0.19	0.35	0.57											
Do.	23–24	8.40 p. m.	D. N.a.m.	1.48	9.04 p. m.	10.02 p. m.	0.02	0.11	0.15	0.27	0.34	0.45	0.56	0.68	0.83	0.89	0.96	1.28			

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1912, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Hannibal, Mo	12	5.50 a. m.	8.40 a. m.	0.84	6.23 a. m.	6.46 a. m.	0.04	0.06	0.25	0.43	0.64	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harrisburg, Pa	21	.....	.....	0.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	.....	.....	.....
Hartford, Conn	14	7.35 a. m.	8.50 a. m.	0.44	7.43 a. m.	7.57 a. m.	0.02	0.11	0.33	0.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hatteras, N. C	19	.....	.....	0.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.29	.....	.....	.....
Havre, Mont	5	.....	.....	0.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	.....	.....
Helena, Mont	22	.....	.....	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	.....	.....
Houghton, Mich	12–13	9.05 p. m.	D. N.a.m.	1.34	10.50 p. m.	12.06 a. m.	0.13	0.14	0.38	0.39	0.42	0.49	0.51	0.59	0.63	0.63	0.68	0.82	1.13	.....	.....
Houston, Tex	5	2.23 p. m.	3.45 p. m.	0.55	3.09 p. m.	3.35 p. m.	0.05	0.14	0.22	0.32	0.43	0.48	0.50	.....	.....	.....	.....	.....	.....	.....	.....
Do	16	2.34 p. m.	4.25 p. m.	2.04	2.49 p. m.	3.37 p. m.	0.02	0.19	0.31	0.63	0.97	1.28	1.46	1.65	1.78	1.84	1.89	.....	.....	.....	.....
Do	18	4.30 p. m.	9.15 p. m.	1.74	4.32 p. m.	5.09 p. m.	0.01	0.13	0.43	0.86	1.21	1.35	1.42	1.49	1.53	.....	.....	.....	.....	.....	.....
Huron, S. Dak	22	D. N.a.m.	7.06 a. m.	0.72	3.36 a. m.	3.51 a. m.	0.16	0.15	0.28	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Independence, Cal	17	.....	.....	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(*)	.....	.....	.....
Indianapolis, Ind	2	4.50 p. m.	6.00 p. m.	1.20	4.52 p. m.	5.12 p. m.	0.01	0.40	0.76	1.04	1.13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	9	3.17 p. m.	7.25 p. m.	2.49	3.20 p. m.	4.37 p. m.	0.01	0.39	0.65	0.87	1.14	1.25	1.33	1.61	1.75	1.84	1.93	2.15	2.39	.....	.....
Iola, Kans	21	.....	.....	0.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.34	.....	.....	.....
Jacksonville, Fla	15–16	12.25 p. m.	D. N.a. m.	3.14	2.29 p. m.	2.55 p. m.	0.45	0.19	0.28	0.50	0.71	0.82	0.84	.....	.....	.....	.....	.....	.....	.....	.....
					8.09 p. m.	8.38 p. m.	1.86	0.13	0.30	0.50	0.66	0.70	0.76	.....	.....	.....	.....	.....	.....	.....	.....
Do	17	8.16 a. m.	12.45 p. m.	0.68	9.48 a. m.	9.58 a. m.	0.03	0.27	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kalispell, Mont	22	.....	.....	0.23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.19	.....	.....	.....
Kansas City, Mo	3	.....	.....	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.61	.....	.....	.....
Keokuk, Iowa	20–21	11.25 p. m.	3.20 a. m.	2.10	12.37 a. m.	1.53 a. m.	0.20	0.09	0.21	0.35	0.44	0.54	0.72	0.78	0.90	1.22	1.34	1.34	1.66	.....	.....
Key West, Fla	5	D. N. a. m.	D. N. a. m.	0.98	12.23 a. m.	12.40 a. m.	0.01	0.09	0.52	0.79	0.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn	11	11.50 a. m.	12.24 p. m.	0.81	11.54 a. m.	12.08 p. m.	0.01	0.26	0.48	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	11	2.03 p. m.	3.30 p. m.	0.74	2.08 p. m.	2.27 p. m.	0.01	0.31	0.50	0.59	0.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	22	2.04 p. m.	2.30 p. m.	0.59	2.09 p. m.	2.23 p. m.	0.02	0.20	0.43	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Crosse, Wis	4	10.12 a. m.	10.53 a. m.	0.61	10.12 a. m.	10.36 a. m.	0.00	0.17	0.39	0.48	0.50	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	9	3.20 p. m.	6.25 p. m.	1.21	4.23 p. m.	4.47 p. m.	0.16	0.26	0.56	0.73	0.93	1.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lander, Wyo	31	.....	.....	0.36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.28	.....	.....	.....
Lansing, Mich	23–24	5.00 p. m.	5.55 a. m.	1.57	12.57 a. m.	1.27 a. m.	0.06	0.05	0.09	0.23	0.38	0.46	0.59	.....	.....	.....	.....	.....	.....	.....	.....
					2.50 a. m.	3.07 a. m.	0.88	0.09	0.34	0.45	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	28–29	7.25 p. m.	D. N. a. m.	0.63	7.29 p. m.	7.43 p. m.	0.01	0.23	0.50	0.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Salle, Ill	1	4.06 p. m.	5.15 p. m.	1.04	4.11 p. m.	4.34 p. m.	0.01	0.19	0.39	0.77	0.97	1.01	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lewiston, Idaho	2	.....	.....	0.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.09	.....	.....	.....
Lexington, Ky	3	4.05 p. m.	6.25 p. m.	1.05	4.28 p. m.	5.10 p. m.	0.01	0.13	0.22	0.46	0.60	0.70	0.78	0.86	0.93	0.96	.....	.....	.....	.....	.....
Do	10	3.07 p. m.	4.25 p. m.	0.96	3.22 p. m.	3.41 p. m.	0.01	0.24	0.50	0.76	0.92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	17	5.10 p. m.	7.30 p. m.	1.03	5.18 p. m.	6.32 p. m.	0.01	0.10	0.19	0.27	0.34	0.40	0.46	0.48	0.53	0.62	0.63	0.64	1.02	.....	.....
Lincoln, Nebr	9	6.10 p. m.	6.55 p. m.	0.45	6.21 p. m.	6.31 p. m.	0.02	0.12	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Ark	6	10.57 a. m.	11.19 a. m.	0.42	11.06 a. m.	11.16 a. m.	0.02	0.22	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Los Angeles, Cal	16	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Louisville, Ky	8	3.33 p. m.	4.30 p. m.	0.64	3.46 p. m.	4.10 p. m.	0.10	0.17	0.31	0.42	0.47	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	15	6.32 p. m.	10.00 p. m.	1.33	6.36 p. m.	7.19 p. m.	0.01	0.07	0.17	0.30	0.48	0.79	1.00	1.12	1.20	1.24	.....	.....	.....	.....	.....
Lynchburg, Va	4	10.20 p. m.	11.40 p. m.	0.78	10.38 p. m.	10.53 p. m.	0.01	0.40	0.64	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	9	2.50 p. m.	3.40 p. m.	0.54	3.00 p. m.	3.24 p. m.	0.01	0.10	0.22	0.33	0.45	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	24	8.10 p. m.	11.30 p. m.	0.71	8.15 p. m.	8.47 p. m.	0.01	0.08	0.16	0.28	0.45	0.53	0.60	0.63	.....	.....	.....	.....	.....	.....	.....
Macon, Ga	10	2.54 p. m.	4.35 p. m.	0.93	3.09 p. m.	3.26 p. m.	0.01	0.37	0.58	0.74	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	13	12.00 noon	1.20 p. m.	1.34	12.07 p. m.	12.37 p. m.	0.01	0.21	0.41	0.66	0.91	1.09	1.22	.....	.....	.....	.....	.....	.....	.....	.....
Madison, Wis	12–13	11.45 p. m.	4.00 a. m.	1.40	12.39 a. m.	1.28 a. m.	0.11	0.11	0.13	0.28	0.41	0.46	0.51	0.51	0.57	0.92	1.09	.....	.....	.....	.....
Marquette, Mich	6	4.50 p. m.	11.20 p. m.	2.07	6.34 p. m.	7.07 p. m.	0.33	0.13	0.28	0.42	0.53	0.87	1.15	1.21	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn	6	6.42 a. m.	11.50 a. m.	2.19	6.46 a. m.	7.57 a. m.	0.01	0.35	0.68	0.87	0.96	1.02	1.07	1.17	1.27	1.41	1.56	1.71	1.86	.....	.....
Meridian, Miss	6	8.20 p. m.	D. N. p. m.	0.87	8.28 p. m.	9.06 p. m.	0.01	0.24	0.50	0.55	0.58	0.60	0.68	0.77	0.82	.....	.....	.....	.....	.....	.....
Do	17	2.30 p. m.	4.10 p. m.	0.94	2.34 p. m.	3.04 p. m.	0.01	0.12	0.20	0.33	0.60	0.73	0.78	.....	.....	.....	.....	.....	.....	.....	.....
Do	18	12.05 p. m.	3.02 p. m.	1.59	12.14 p. m.	12.56 p. m.	0.01	0.11	0.63	0.92	1.06	1.10	1.15	1.23	1.39	1.42	.....	.....	.....	.....	.....
Miami, Fla	6	8.00 p. m.	11.45 p. m.	0.75	8.00 p. m.	8.36 p. m.	0.00	0.08	0.24	0.38	0.41	0.50	0.56	0.62	0.65	.....	.....	.....	.....	.....	.....
Do	15	7.57 a. m.	12.40 p. m.	0.70	8.22 a. m.	8.48 a. m.	0.04	0.18	0.32	0.47	0.48	0.55	0.59	.....	.....	.....	.....	.....	.....	.....	.....
Do	29	11.10 a. m.	3.20 p. m.	1.80	11.17 a. m.	12.58 p. m.	0.04	0.18	0.37	0.48	0.51	0.58	0.59	0.59	0.59	0.68	0.90	1.15	1.26	1.67	1.73
Milwaukee, Wis	13	1.30 a. m.	4.30 a. m.	2.19	1.36 a. m.	2.41 a. m.	0.01	0.10	0.29	0.46	0.70	0.96	1.23	1.36	1.46	1.59	1.68	1.87	2.06	.....	.....
Minneapolis, Minn	2	5.15 p. m.	7.30 p. m.	0.84	5.20 p. m.	5.45 p. m.	0.01	0.05	0.24	0.44	0.53	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	12	4.19 p. m.	5.40 p. m.	1.60	4.35 p. m.	5.23 p. m.	0.03	0.46	0.61	0.70	0.78	0.79	0.81	0.85	1.04	1.39	1.56	.....	.....	.....	.....
Do	23	D. N. a. m.	9.34 a. m.	2.07	4.43 a. m.	5.27 a. m.	0.19	0.26	0.47	0.70	0.96	1.10	1.20	1.24	1.33	1.40	.....	.....	.....	.....	.....
Mobile, Ala	6	11.40 a. m.	3.20 p. m.	0.95	11.58 a. m.	12.32 p. m.	0.02	0.14	0.31	0.52	0.61	0.68	0.82	0.90	.....	.....	.....	.....	.....	.....	.....
Do	13	11.42 a. m.	2.30 p. m.	1.22	11.47 a. m.	12.42 p. m.	0.02	0.16	0.38	0.49	0.60	0.62	0.66	0.73	0.82	0.94	1.12	1.20	.....	.....	.....
Do	14	5.28 p. m.	8.50 p. m.	1.35	5.38 p. m.	6.26 p. m.	0.01	0.23	0.54	0.80	0.89	0.91	0.95	1.03	1.11	1.19	1.23	.....	.....	.....	.....
Modena, Utah	18	.....	.....	0.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	.....	.....	.....
Montgomery, Ala	8	3.20 p. m.	4.30 p. m.	0.59	3.49 p. m.	4.05 p. m.	0.02	0.22	0.41	0.48	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	8	6.25 p. m.	7.15 p. m.	0.76	6.33 p. m.	6.56 p. m.	0.02	0.11	0.28	0.50	0.67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	9	4.38 p. m.	6.35 p. m.	0.72	4.49 p. m.	5.20 p. m.	0.02	0.09	0.32	0.48	0.55	0.61	0.67	0.69	.....	.....	.....	.....	.....	.....	.....
Do	17	3.10 p. m.	5.00 p. m.	1.20	3.40 p. m.	3.57 p. m.	0.25	0.21	0.64	0.87	0.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn	2	4.20 a. m.	7.20 a. m.	1.36	4.43 a. m.	5.44 a. m.	0.05	0.23	0.29	0.31	0.32	0.33	0.35	0.53	0.55	0.58	0.64	0.98	1.10	.....	.....
Do	11	9.15 p. m.	11.00 p. m.	1.02	9.28 p. m.	10.00 p. m.	0.03	0.18	0.26	0.35	0.40	0.50	0.75	0.78	.....	.....	.....	.....	.....	.....	.....
Mount Tamalpais, Cal	(‡)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mount Weather, Va	11	8.18 p. m.	8.36 p. m.	0.72	8.20 p. m.	8.36 p. m.	T.	0.23	0.54	0.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	15	2.35 p. m.	4.10 p. m.	1.02	2.39 p. m.	3.09 p. m.	0.02	0.13	0.52	0.65	0.72	0.83	0.96	.....	.....	.....	.....	.....	.....	.....	.....
Do	31	6.35 p. m.	7.15 p. m.	0.74	6.52 p. m.	7.10 p. m.	0.01	0.16	0.54	0.68	0.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nantucket, Mass	16	2.40 a. m.	5.20 a. m.	0.85	4.29 a. m.	4.55 a. m.	0.21	0.06	0.16	0.28	0.41	0.59	0.62	.....	.....	.....	.....	.....	.....	.....	.....
Do	21	1.10 p. m.	11.50 p. m.	2.56	10.17 p. m.	10.36 p. m.	1.91	0.09	0.24	0.50	0.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Tenn	1	3.23 p. m.	4.20 p. m.	0.71	3.26 p. m.	3.42 p. m.	0.01	0.30	0.45	0.63	0.66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	4	8.05 a. m.	10.15 a. m.	1.00	8.08 a. m.	8.32 a. m.	0.01	0.19	0.32	0.41	0.58	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	15	3.53 p. m.	5.20 p. m.	0.98	4.03 p. m.	4.29 p. m.	0.05	0.17	0.40	0.58	0.75	0.89	0.91	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn	31	8.10 p. m.	D. N. p. m.	0.43	8.47 p. m.	8.54 p. m.	0.02	0.28	0.32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Orleans, La	10	12.30 p. m.	3.10 p. m.	0.60	12.56 p. m.	1.11 p. m.	0.06	0.17	0.32	0.39	0.66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	12	12.02 p. m.	1.00 p. m.	0.72	12.12 p. m.	12.30 p. m.	0.02	0.17	0.45	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	18	10.58 a. m.	12.05 p. m.	0.88	11.12 a. m.	11.35 a. m.	0.02	0.10	0.51	0.65	0.78	0.82	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, N. Y	21	7.10 a. m.	3.50 p. m.	1.90	2.10 p. m.	3.00 p. m.	0.12	0.05	0.13	0.20	0.31	0.65	1.02	1.28	1.48	1.67	1.72	.....	.....	.....	.....
Norfolk, Va	31	1.05 p. m.	2.00 p. m.	0.44	1.28 p. m.	1.39 p. m.	0.01	0.16	0.36	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Northfield, Vt	6	5.08 p. m.	5.45 p. m.	0.43	5.10 p. m.	5.26 p. m.	0.02	0.18	0.35	0.40	0.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Head, Wash	21	.....	.....	0.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	.....	.....	.....
North Platte, Nebr	18	1.15 a. m.	2.45 a. m.	1.04	2.06 a. m.	2.36 a. m.	0.17	0.21	0.37	0.43	0.55	0.79	0.86	.....	.....	.....	.....	.....	.....	.....	.....
Do	26	12.05 a. m.	5.00 a. m.	0.89	1.20 a. m.	1.35 a. m.	0.13	0.19	0.41	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oklahoma, Okla	**30–1	10.25 p. m.	10.00 a. m.	1.59	7.39 a. m.	8.14 a. m.	0.11	0.08	0.31	0.54	0.70	0.86	0.99	1.07	.....	.....	.....	.....	.....	.....	.....
Omaha, Nebr	18	12.35 a. m.	6.10 a. m.	0.94	1.24 a. m.	1.40 a. m.	0.24	0.14	0.25	0.38	0.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oswego, N. Y	13	8.21 p. m.	9.32 p. m.	0.80	8.21 p. m.	8.57 p. m.	0.00	0.24	0.46	0.54	0.61	0.64	0.68	0.74	0.78	.....	.....	.....	.....	.....	.....
Palestine, Tex	29	.....	.....	0.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.22	.....	.....	.....
Parkersburg, W. Va	15	7.40 p. m.	10.30 p. m.	1.09	7.47 p. m.	8.28 p. m.	0.01	0.09	0.32	0.56	0.73	0.74	0.75	0.90	0.98	1.03	.....	.....	.....	.....	.....
Do	21	12.45 a. m.	5.25 a. m.	0.96	1.46 a. m.	2.11 a. m.	0.03	0.05	0.17	0.38	0.61	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	21	1.15 p. m.	7.37 p. m.	2.75	1.26 p. m.	1.43 p. m.	0.02	0.10	0.44	0.62	0.64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
					5.11 p. m.	6.27 p. m.	1.03	0.23	0.35	0.42	0.51	0.61	0.69	0.70	0.72	0.89	1.10	1.18	1.54	.....	.....
Do	24	6.05 p. m.	7.50 p. m.	1.54	6.10 p. m.	6.50 p. m.	0.01	0.18	0.47	0.83	0.98	1.15	1.29	1.42	1.47	.....	.....	.....	.....	.....	.....
Pensacola, Fla	7	5.40 a. m.	8.40 a. m.	1.19	6.51 a. m.	7.47 a. m.	0.13	0.17	0.29	0.38	0.51	0.59	0.77	0.85	0 93	0.97	.....	.....	.....	.....	.....
Do	18	3.05 a. m.	1.20 p. m.	1.58	5.53 a. m.	6.12 a. m.	0.66	0.18	0.24	0.41	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during July, 1912, at all stations furnished with self-registering gages*—Continued.

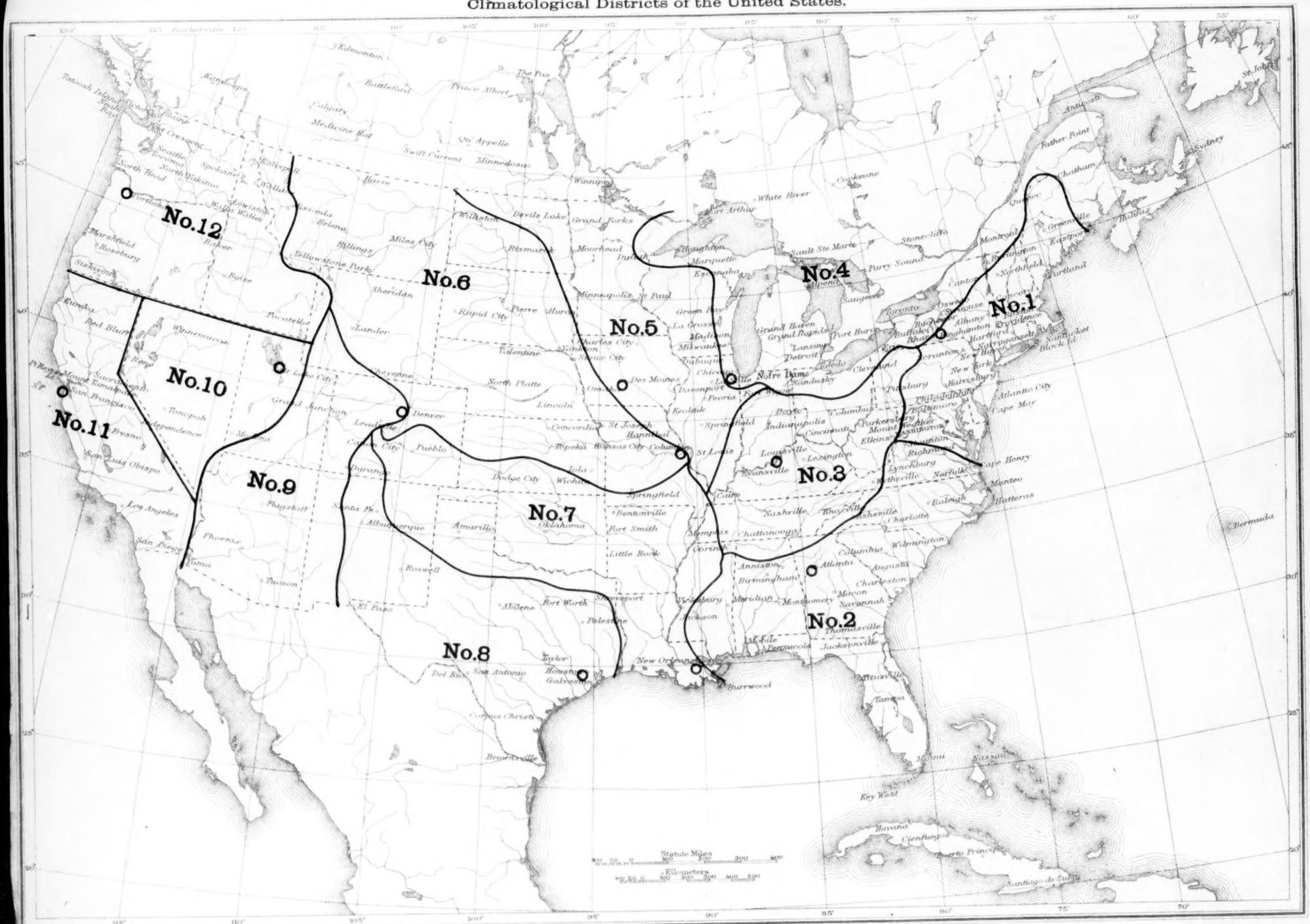
Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.												
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Peoria, Ill	10	3.00 a. m.	7.27 a. m.	1.88	4.19 a. m.	5.00 a. m.	0.02	0.36	0.72	1.03	1.17	1.29	1.36	1.45	1.51	1.54					
Do	20–21	11.50 p. m.	6.35 a. m.	2.67	11.52 p. m.	12.15 a. m.	0.01	0.12	0.44	0.58	0.71	0.75									
					4.28 a. m.	5.53 a. m.	1.18	0.07	0.14	0.20	0.25	0.32	0.48	0.66	0.75	0.82	0.90	1.00	1.30	1.45	
Philadelphia, Pa	10–11	8.59 p. m.	D. N. a. m.	0.76	8.59 p. m.	9.42 p. m.	0.00	0.17	0.32	0.39	0.45	0.52	0.59	0.64	0.69	0.73					
Phoenix, Ariz	17			0.38														0.37			
Pierre, S. Dak	4			1.30														0.83			
Pittsburgh, Pa	10	1.50 p. m.	3.05 p. m.	0.53	1.58 p. m.	2.08 p. m.	0.01	0.28	0.50												
Do	21	10.39 a. m.	2.20 p. m.	1.93	10.54 a. m.	11.44 a. m.	0.01	0.39	0.58	0.78	0.92	1.02	1.07	1.07	1.09	1.19	1.31				
Do	24	12.16 a. m.	1.35 p. m.	2.01	7.14 a. m.	7.30 a. m.	0.24	0.18	0.38	0.48	0.51									1.45	
Pocatello, Idaho	31			0.77														0.51			
Point Reyes Light, Cal	13			0.03														0.02			
Port Huron, Mich	10	1.50 p. m.	4.00 p. m.	0.70	1.56 p. m.	2.10 p. m.	0.01	0.23	0.46	0.55											
Portland, Me	21			1.43														0.31			
Portland, Oreg	21			0.23														0.12			
Providence, R. I	18	4.53 p. m.	5.48 p. m.	0.59	5.20 p. m.	5.33 p. m.	0.06	0.18	0.46	0.52											
Pueblo, Colo	30	6.03 p. m.	7.10 p. m.	0.74	6.14 p. m.	6.34 p. m.	0.05	0.09	0.35	0.60	0.65										
Raleigh, N. C	19	6.30 p. m.	8.10 p. m.	0.67	6.46 p. m.	7.13 p. m.	0.01	0.05	0.14	0.32	0.45	0.57	0.63								
Rapid City, S. Dak	3	7.55 p. m.	12.00 p. m.	1.04	8.20 p. m.	9.05 p. m.	0.01	0.07	0.16	0.27	0.35	0.43	0.59	0.68	0.76	0.86					
Do	4	2.50 p. m.	3.40 p. m.	1.29	2.58 p. m.	3.36 p. m.	0.01	0.10	0.25	0.55	0.80	1.04	1.16	1.24	1.28						
Red Bluff, Cal	18			0.04														0.04			
Reno, Nev	18			0.48														0.35			
Richmond, Va	18			0.39														0.21			
Rochester, N. Y	15	5.16 p. m.	7.36 p. m.	0.97	5.51 p. m.	6.10 p. m.	0.13	0.08	0.38	0.68	0.72										
Roseburg, Oreg	2			0.16														0.14			
Roswell, N. Mex	21	4.10 p. m.	7.45 p. m.	1.42	4.13 p. m.	4.30 p. m.	0.01	0.21	0.47	0.62	0.66										
Sacramento, Cal	17			T.														T.			
St. Joseph, Mo	5	7.07 p. m.	8.33 p. m.	0.90	7.17 p. m.	7.44 p. m.	0.02	0.12	0.33	0.49	0.69	0.77	0.82								
St. Louis, Mo	14	2.32 a. m.	4.52 a. m.	3.16	2.46 a. m.	3.47 a. m.	0.01	0.14	0.41	0.72	0.99	1.18	1.30	1.58	1.98	2.28	2.50	2.95	3.07		
St. Paul, Minn	23	3.50 a. m.	9.45 a. m.	1.28	5.02 a. m.	5.55 a. m.	0.13	0.07	0.10	0.18	0.26	0.31	0.38	0.41	0.52	0.63	0.75	0.82			
Salt Lake City, Utah	19	10.05 a. m.	11.15 a. m.	0.96	10.08 a. m.	11.11 a. m.	0.01	0.10	0.28	0.37	0.41	0.44	0.48	0.53	0.61	0.69	0.75	0.91	0.95		
San Antonio, Tex	16	5.00 p. m.	5.42 p. m.	0.50	5.00 p. m.	5.14 p. m.	0.00	0.15	0.40	0.50											
Do	18–19	7.56 p. m.	1.45 a. m.	0.67	8.07 p. m.	8.29 p. m.	0.09	0.11	0.32	0.42	0.50	0.54									
San Diego, Cal	17			0.12														0.06			
Sand Key, Fla	9			0.49														0.41			
Sandusky, Ohio	2	2.30 p. m.	3.04 p. m.	0.64	2.46 p. m.	3.00 p. m.	0.03	0.23	0.49	0.59											
Do	15	12.50 p. m.	1.40 p. m.	0.57	1.01 p. m.	1.30 p. m.	0.05	0.19	0.35	0.41	0.46	0.50									
San Francisco, Cal	30			T.														T.			
San Jose, Cal	31			T.														T.			
San Luis Obispo, Cal	2			T.														T.			
Sante Fe, N. Mex	22	5.36 p. m.	8.10 p. m.	0.49	7.24 p. m.	7.29 p. m.	0.14	0.29	0.32												
Sault Ste. Marie, Mich	4			0.20														0.18			
Savannah, Ga	12–13	10.45 p. m.	D. N. a. m.	0.80	11.15 p. m.	11.38 p. m.	0.05	0.17	0.39	0.50	0.66	0.71									
Do	24	1.57 p. m.	3.10 p. m.	1.48	1.59 p. m.	2.24 p. m.	0.01	0.30	0.60	0.96	1.19	1.45									
Scranton, Pa	13	4.08 p. m.	4.55 p. m.	0.77	4.19 p. m.	4.39 p. m.	0.01	0.21	0.42	0.61	0.70										
Seattle, Wash	24			0.28														0.23			
Sheridan, Wyo	2	7.52 p. m.	8.20 p. m.	0.91	7.53 p. m.	8.08 p. m.	0.01	0.16	0.64	0.85											
Shreveport, La	31	6.40 a. m.	10.00 a. m.	2.44	8.17 a. m.	9.01 a. m.	0.34	0.12	0.38	0.72	1.13	1.41	1.64	1.70	1.82	2.02					
Sioux City, Iowa	8	12.10 a. m.	1.35 a. m.	0.63	12.16 a. m.	12.38 a. m.	0.01	0.22	0.42	0.48	0.56	0.59									
Southeast Farallon, Cal	29			0.01														0.01			
Spokane, Wash	13			0.45														0.20			
Springfield, Ill	6	4.04 p. m.	7.40 p. m.	2.97	4.06 p. m.	4.58 p. m.	0.01	0.38	0.80	1.20	1.43	1.73	2.10	2.31	2.42	2.56	2.70	2.75			
Springfield, Mo	21			0.29														0.28			
Syracuse, N. Y	3	7.08 p. m.	7.50 p. m.	0.89	7.12 p. m.	7.43 p. m.	0.01	0.19	0.44	0.55	0.58	0.69	0.85	0.87							
Tacoma, Wash	24			0.49														0.39			
Tampa, Fla	5	1.15 p. m.	5.35 p. m.	1.40	1.15 p. m.	1.44 p. m.	0.00	0.25	0.66	0.85	1.02	1.19	1.28								
Do	7	4.00 p. m.	7.30 p. m.	1.04	4.31 p. m.	5.01 p. m.	0.05	0.05	0.20	0.34	0.46	0.55	0.61								
Do	17	12.46 p. m.	4.20 p. m.	1.21	1.02 p. m.	1.27 p. m.	0.04	0.13	0.31	0.56	0.82	0.89									
Do	22	2.35 p. m.	3.20 p. m.	0.66	2.41 p. m.	3.06 p. m.	0.01	0.14	0.30	0.48	0.57	0.62									
Tatoosh Island, Wash	24			0.82														0.18			
Taylor, Tex	19			0.13														0.09			
Thomasville, Ga	9	3.42 p. m.	9.20 p. m.	1.57	3.52 p. m.	4.25 p. m.	0.01	0.22	0.49	0.66	0.83	1.01	1.18	1.24							
Do	10	12.58 p. m.	2.20 p. m.	0.55	12.58 p. m.	1.17 p. m.	0.00	0.17	0.37	0.45	0.52										
Toledo, Ohio	30	2.15 p. m.	4.28 p. m.	0.78	3.55 p. m.	4.08 p. m.	0.11	0.26	0.55	0.64											
Tonopah, Nev	17–18			0.81														(*)			
Topeka, Kans	20	9.08 p. m.	11.45 p. m.	0.80	9.08 p. m.	9.21 p. m.	0.00	0.22	0.53	0.66											
Valentine, Nebr	19			0.75														0.39			
Vicksburg, Miss	15	8.30 p. m.	D. N. p. m.	1.12	8.47 p. m.	9.14 p. m.	0.02	0.23	0.40	0.62	0.72	0.80	0.83								
Walla Walla, Wash	20			0.25														0.23			
Washington, D. C	14	5.40 p. m.	10.20 p. m.	2.93	6.01 p. m.	6.50 p. m.	0.02	0.05	0.25	0.59	0.93	1.38	1.78	2.14	2.38	2.50	2.54				
Do	18	11.50 a. m.	7.15 p. m.	1.71	1.17 p. m.	1.35 p. m.	0.04	0.32	0.49	0.67	0.76										
					2.21 p. m.	2.49 p. m.	0.94	0.11	0.27	0.48	0.53	0.58	0.63								
Wichita, Kans	17			0.52														0.36			
Williston, N. Dak	23	D. N. a. m.	D. N. a. m.	1.14	12.48 a. m.	1.19 a. m.	0.01	0.23	0.49	0.71	0.87	0.91	0.98	1.01							
Wilmington, N. C	19	5.08 p. m.	8.20 p. m.	1.13	5.16 p. m.	6.08 p. m.	0.04	0.07	0.13	0.18	0.32	0.47	0.48	0.52	0.64	0.78	0.94	1.00			
Winnemucca, Nev	31			0.35														0.31			
Wytheville, Va	29	6.20 p. m.	8.45 p. m.	0.69	6.30 p. m.	6.47 p. m.	0.01	0.05	0.15	0.45	0.60										
Yankton, S. Dak	4	4.45 p. m.	6.30 p. m.	0.69	5.02 p. m.	5.22 p. m.	0.01	0.16	0.28	0.46	0.54										
Yellowstone Park, Wyo	13			0.31														0.22			

* Self-register not working. † Record incomplete. ‡ No precipitation occurred during month. ** June 30–July 1.

TABLE III.—*Data furnished by the Canadian Meteorological Service, July, 1912.*

	Pressure.			Temperature.						Precipitation.		
	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal	Mean max.+mean min.÷2.	Departure from normal.	Mean maximum.	Mean minimum.	Highest.	Lowest.	Total.	Departure from normal.	Total. snowfall.
St. Johns, N. F.	29.78	29.92	−.05	54.8	−4.5	63.4	46.2	86	38	7.72	+3.83	.....
Sydney, C. B. I.	29.87	29.91	−.02	62.9	+0.6	71.7	54.1	92	40	2.16	−1.49	.....
Halifax, N. S.	29.81	29.91	−.05	66.1	+2.7	76.8	55.4	99	40	4.67	+0.62	.....
Grand Manan, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yarmouth, N. S.	29.88	29.95	.00	60.1	+0.6	66.4	53.7	78	46	3.86	+0.24	.....
Charlottetown, P. E. I.	29.85	29.89	−.01	65.6	+1.5	73.8	57.4	91	42	4.53	+1.04	.....
Chatham, N. B.	29.89	29.91	+.03	66.0	+1.0	76.3	55.8	98	42	6.53	+2.34	.....
Father Point, Que.	29.86	29.88	+.03	56.9	−0.7	65.9	47.9	83	40	3.93	+0.89	.....
Quebec, Que.	29.60	29.92	+.01	67.9	+2.4	79.2	56.6	94	47	1.96	−2.30	.....
Montreal, Que.	29.74	29.94	+.01	71.0	+2.5	79.9	62.0	92	52	2.32	−1.97	.....
Stonecliffe, Ont.	29.35	29.95	+.01	66.7	+1.1	80.9	52.5	99	40	2.03	−1.09	.....
Ottawa, Ont.	29.71	30.03	+.09	68.1	−1.4	77.7	58.4	91	47	3.86	+0.39	.....
Kingston, Ont.	29.69	29.99	+.02	67.3	−0.9	76.5	58.2	85	45	1.64	−1.25	.....
Toronto, Ont.	29.63	29.99	+.02	69.6	+1.1	79.8	59.5	92	46	1.95	−0.97	.....
White River, Ont.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Stanley, Ont.	29.35	29.98	.00	68.3	+0.5	77.1	59.5	86	46	3.91	+0.87	.....
Southampton, Ont.	29.32	.....	.....	65.1	+0.4	73.6	56.6	85	44	1.06	−0.92	.....
Parry Sound, Ont.	29.32	30.00	+.04	69.0	+3.0	80.8	57.2	95	45	1.40	−1.22	.....
Port Arthur, Ont.	29.26	29.97	+.03	60.3	−1.7	69.5	51.2	79	40	1.97	−1.51	.....
Winnipeg, Man.	29.12	29.93	.00	65.3	−0.7	75.5	55.1	89	42	6.11	+3.03	.....
Minnedosa, Man.	28.14	29.92	−.01	62.0	+0.2	72.8	51.2	92	36	3.93	+1.33	.....
Qu'Appelle, Sask.	27.70	29.92	.00	59.5	−4.0	68.9	50.1	82	40	4.42	+1.94	.....
Medicine Hat, Alberta.	27.69	29.93	+.03	65.2	−2.6	79.3	51.0	94	38	0.98	−2.11	.....
Swift Current, Sask.	27.44	29.97	+.06	62.0	−4.5	72.3	51.7	86	41	2.32	−0.12	.....
Calgary, Alberta.	26.46	29.96	+.06	56.3	−4.3	67.0	45.6	79	33	5.20	+2.52	.....
Banff, Alberta.	25.45	29.99	+.09	53.2	−3.4	64.9	41.5	83	34	5.03	+1.79	.....
Edmonton, Alberta.	27.69	29.95	+.05	58.3	−2.3	69.4	47.3	82	35	4.76	+1.73	.....
Prince Albert, Sask.	28.37	29.91	.00	58.8	−3.1	68.3	49.3	79	40	5.31	+3.26	.....
Battleford, Sask.	28.23	29.95	+.05	61.7	−3.0	71.2	52.2	81	40	5.35	+3.01	.....
Kamloops, B. C.	28.65	28.89	+.05	66.2	−2.3	77.8	54.5	90	48	3.50	+1.89	.....
Victoria, B. C.	29.94	30.03	−.02	61.8	+1.8	71.5	52.2	90	46	1.15	+0.75	.....
Barkerville, B. C.	25.74	30.03	+.12	52.5	−2.6	63.7	41.3	76	35	3.42	+0.40	.....
Dawson, Yukon.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton, Bermuda.	29.99	30.15	+.01	77.3	−1.4	82.6	72.1	86	68	11.24	+6.80	.....

Climatological Districts of the United States.



106 Climatological Sections of the United States.

Chart I. Hydrographs of Several Principal Rivers, July, 1912.

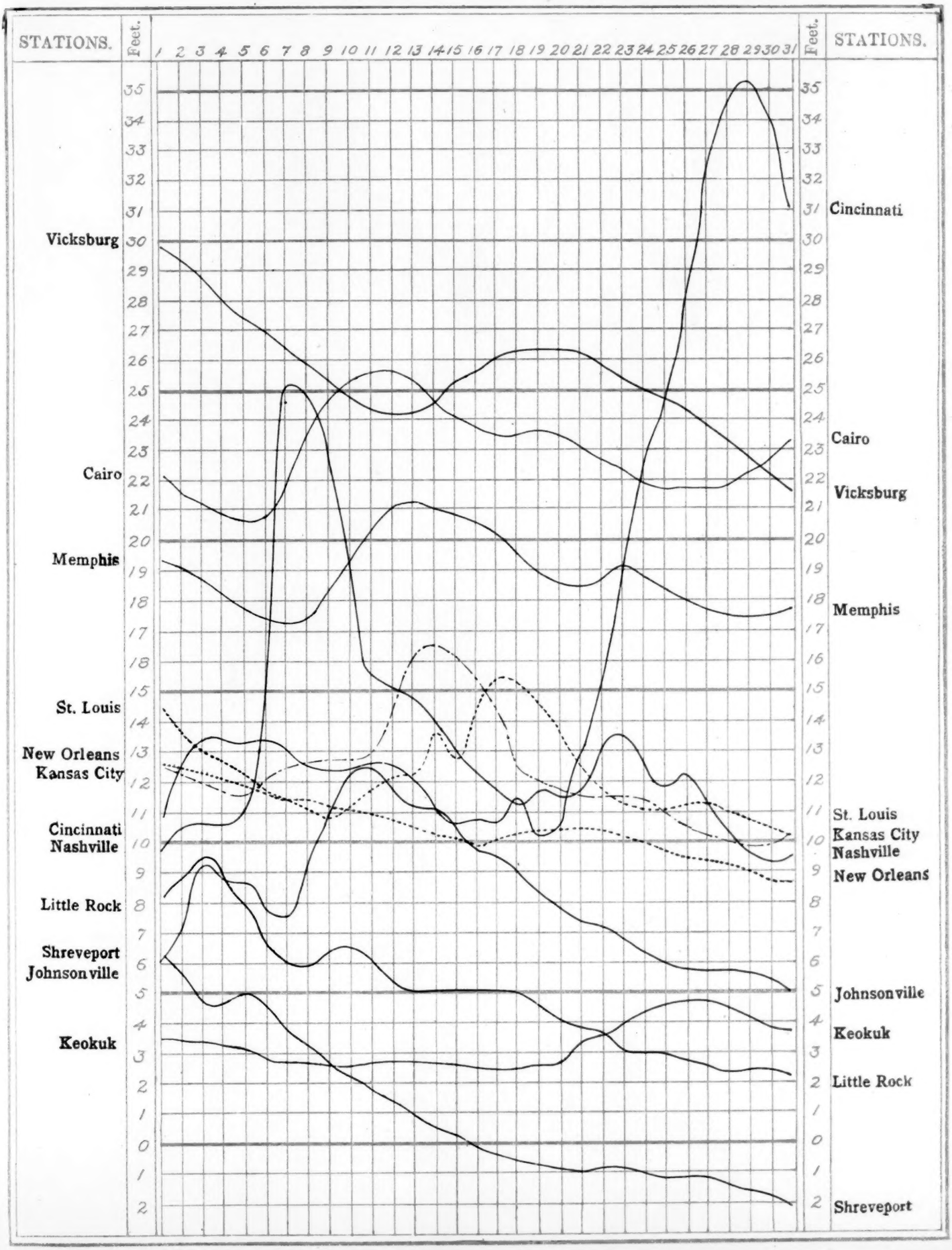


Chart II. Tracks of Centers of High Areas, July, 1912.

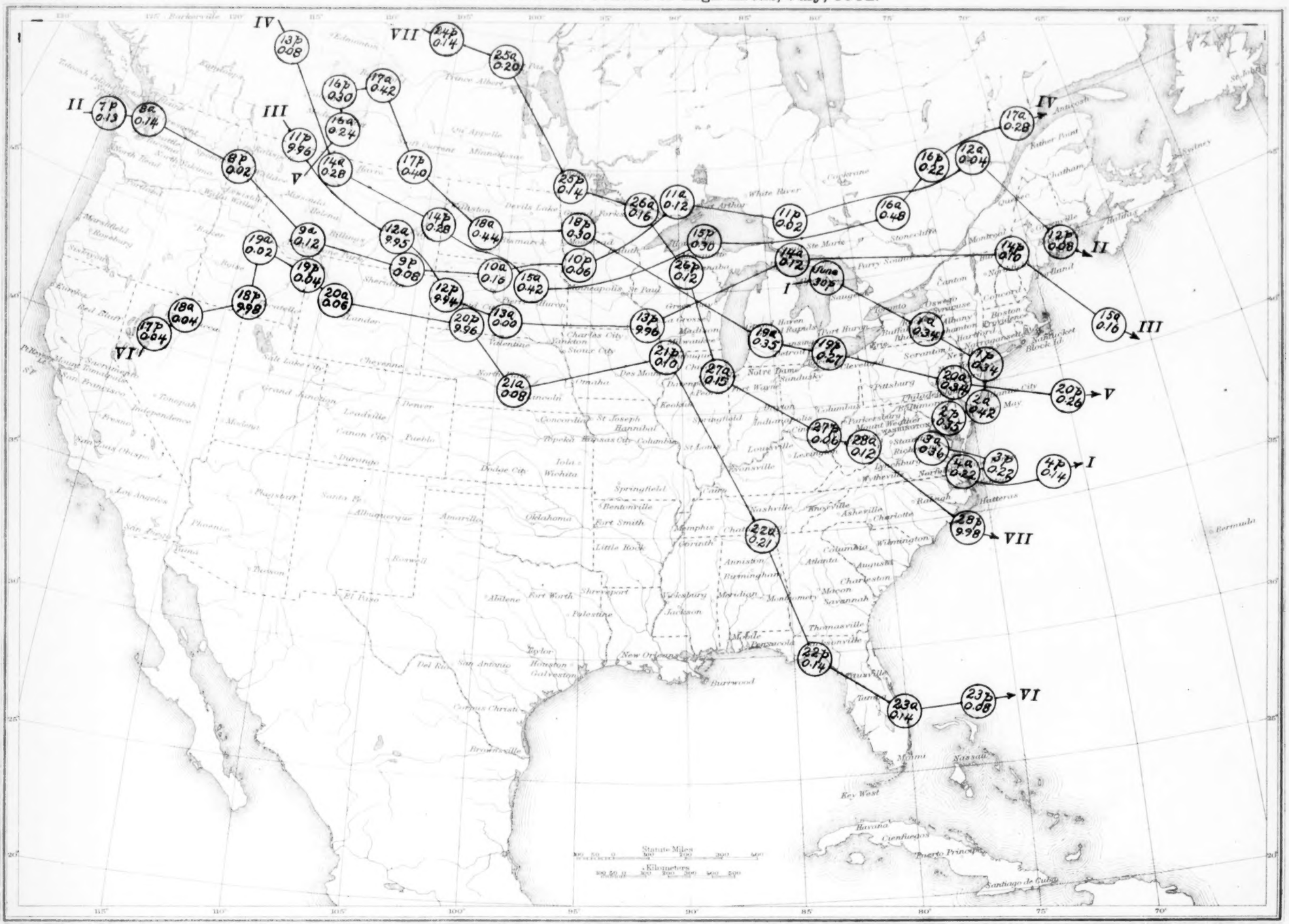


Chart III. Tracks of Centers of Low Areas, July, 1912.

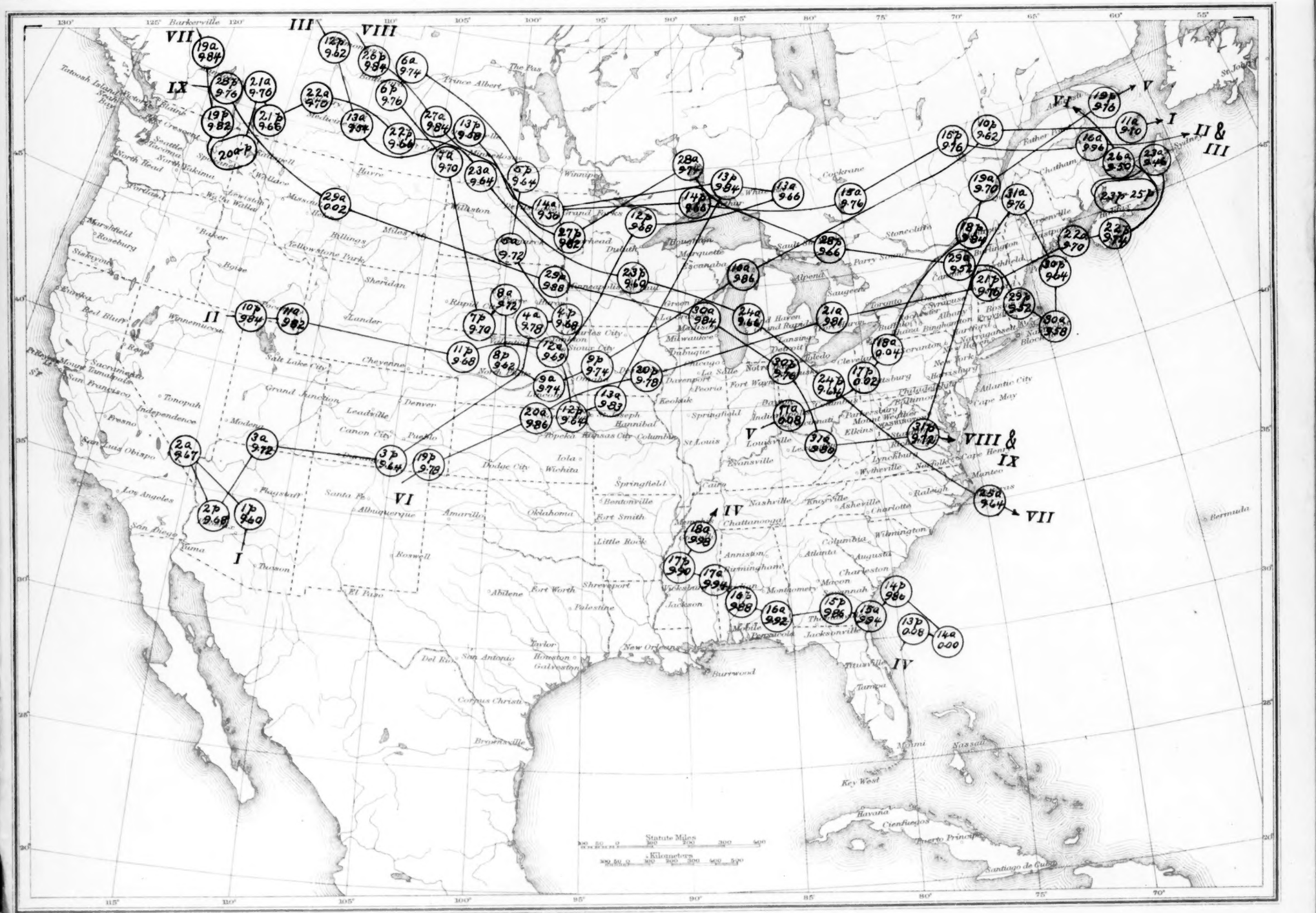


Chart IV. Departure of the Mean Temperature from the Normal, July, 1912.

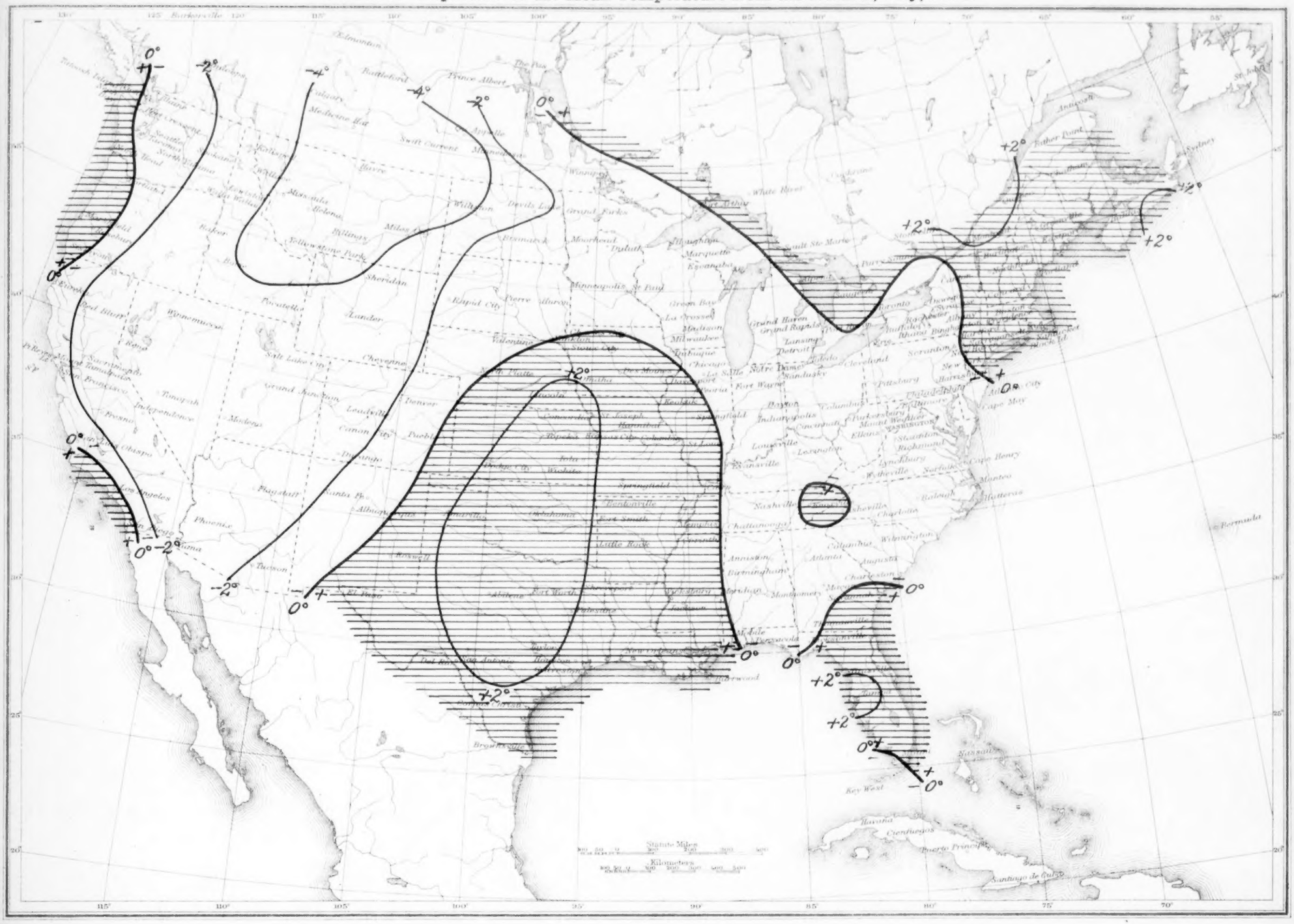


Chart V. Total Precipitation, July, 1912.

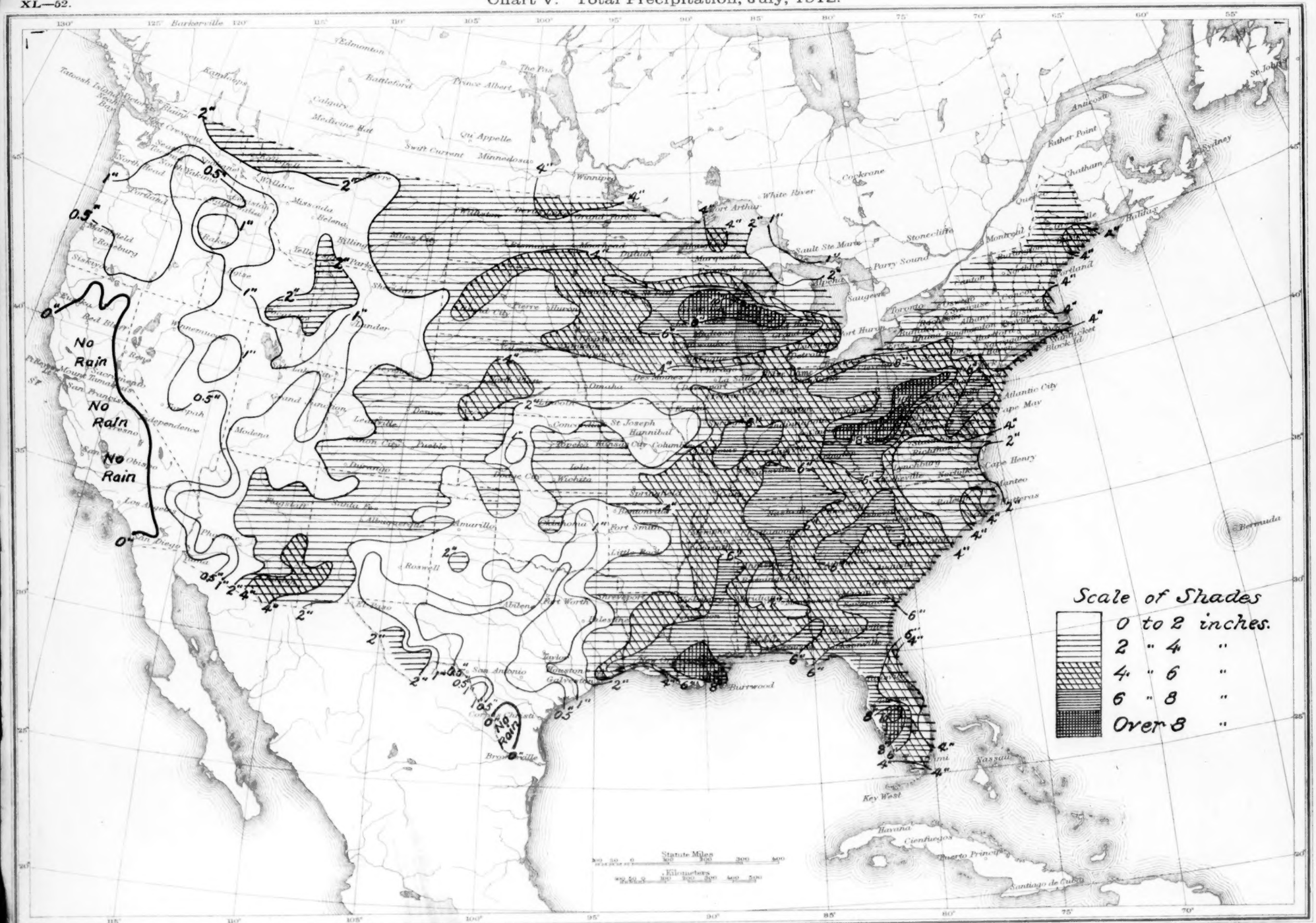


Chart VI. Percentage of Clear Sky between Sunrise and Sunset, July, 1912.

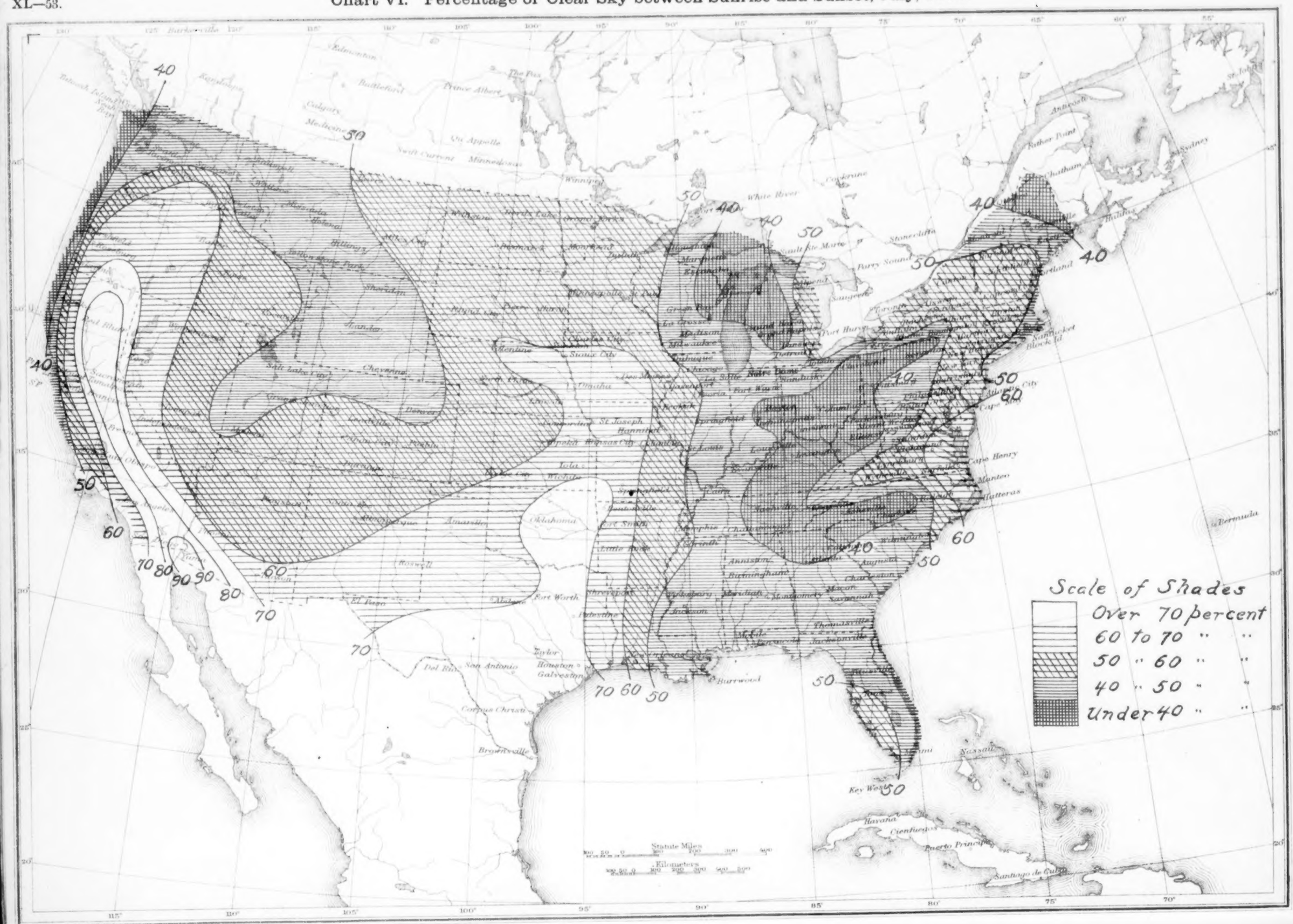
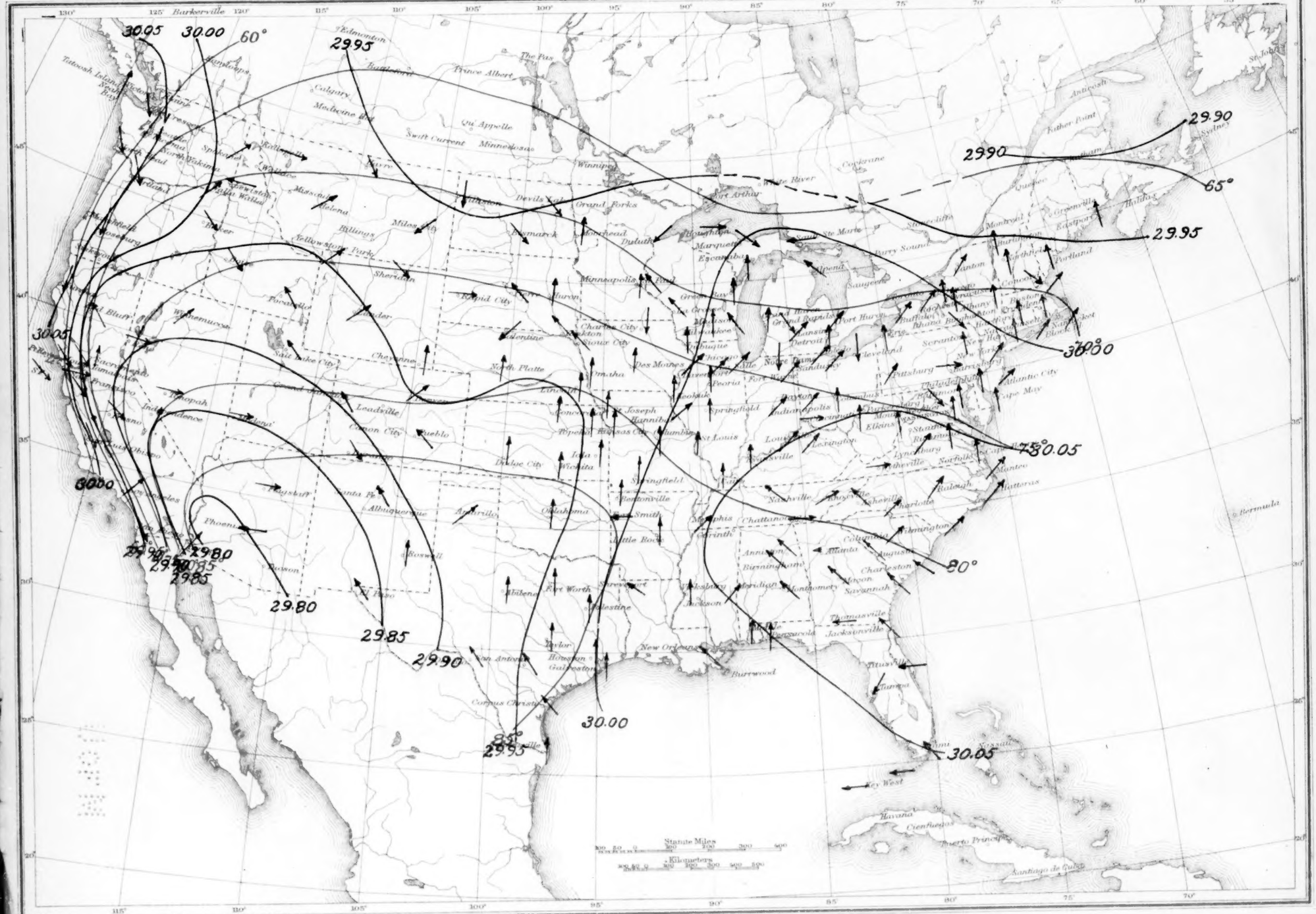



Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, July, 1912.